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QUARTERLY REVIEW OF MILITARY LITERATURE

VOL. XII DECEMBER, 1932 No. 47

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Quarterly Review of Military Literature

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FOREWORD

The object of this publication is a systematic review of current military literature, through cataloging articles of professional value, in selected military and naval periodicals, in the domestic and foreign field.

Articles from foreign periodicals are treated by translations of titles and digests of contents; material of particular importance is covered by more extensive translations in Section 3, "Abstracts of Foreign-language Articles."

Section 4, "Book Reviews," contains reviews of outstanding books, recently accessioned, which are of particular professional significance.

This material is published as a guide to modern military tendencies and to inspire vigorous thought on the subjects treated.

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Major C. A. Willoughby, Editor

Volume XII December, 1932 Number 47

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B—English Language Periodicals
C—Abstracts of Foreign Language Articles
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Section 1
DIRECTORY OF PERIODICALS

General.—Included in this directory are only those periodicals from which articles have been selected.

Arrangement.—Periodicals are arranged in two categories: (1) Military and Naval; (2) General.

An index number precedes the title of each periodical. This index number corresponds to the container in the Library Reading Room.

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27	Journal of the United Service Institution of India (Great Britain—India)	13
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0	Intelligence Summary [WD]	7
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13	Bulletin Belge des Sciences Militaires (Belgium)	9
14	Canadian Defense Quarterly (Canada)	10
29	Militärwissenschaftliche Mitteilungen (Austria)	13
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CATALOG OF SELECTED PERIODICAL ARTICLES

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0—INFORMATION BULLETIN (Navy Department)

July-October 1932

(1) SINO-JAPANESE SITUATION
(2) THE CHINESE SOLDIER
(3) ARGENTINA
(4) PRESIDENT HOOVER'S DISARMAMENT PROPOSAL

0—INTELLIGENCE SUMMARY (War Department)

7 October 1932

(1) GERMANY: THE GERMAN ARMY

4 November 1932

(2) GREAT BRITAIN: SUMMER TRAINING—1932
(3) ITALY: TEN YEARS OF FASCISM

18 November 1932

(4) CENTRAL EUROPE: GERMANY'S ARMS—EQUALITY DEMAND
(5) JAPAN: THE RISE OF FASCISM

2 December 1932

(6) ITALY: GRAND MANEUVERS

16 December 1932

(7) BRITISH EMPIRE: DISARMAMENT
(8) JAPAN: THE JAPANESE FINANCIAL SITUATION

30 December 1932

(9) ITALY: ANTIAIRCRAFT DEFENSE OF ROME

4—ARMY AND NAVY JOURNAL

29 October 1932

(1) INSTRUCTIONS ISSUED FOR PLANNING FOUR ARMIES
(2) THE LYTTON REPORT
(3) PRESIDENT HOOVER'S STAND ON NATIONAL DEFENSE

5 November 1932

(4) ANNOUNCE WAR COLLEGE, LEAVENWORTH POLICIES
(5) THE LYTTON REPORT

12 November 1932

(6) ARMY BRANCH CHIEFS MAKE ANNUAL REPORTS
(7) WAR RANK PROMOTIONS

26 November 1932

(8) APPROVE NEW ARMY RATION
(9) MILITIA BUREAU REPORT
(10) CUT NATIONAL GUARD AND RESERVES

3 December 1932

(11) ARMY INCREASE ASKED BY GENERAL MACARTHUR
(12) SECRETARY HURLEY'S REPORT

10 December 1932

(13) NAVY ANNUAL REPORTS SHOW NEEDS OF FLEET
(14) SERVICE DUTIES SHIFTED IN REORGANIZATION PLAN
(15) WAR DEPARTMENT ESTIMATES
(16) NAVY DEPARTMENT ESTIMATES

24 December 1932

(17) OPPOSITION TO SHIFTING OF NAVY DUTIES GROW
(18) PROPOSE GENERAL CUT INSTEAD OF PAY FREEZE
(19) SHANNON COMMITTEE TO REPORT

31 December 1932

(20) THE MAINTENANCE OF NATIONAL DEFENSE. General Pershing
(21) ECONOMY COMMITTEE TO REPORT NEXT WEEK

5—ARMY AND NAVY REGISTER

22 October 1932

(1) JOINT AIR MANEUVERS

29 October 1932

(2) NEW FIELD ARMIES
(3) NATIONAL GUARD CONVENTION

5 November 1932

(4) ARMY STUDENT OFFICERS
(5) A MODERN CAVALRY

12 November 1932

(6) ARMY ANNUAL REPORTS

26 November 1932

(7) ARMY ANNUAL REPORTS: THE CHIEF SIGNAL OFFICER

3 December 1932

(8) SECRETARY OF WAR'S REPORT
(9) REPORT OF CHIEF OF STAFF

31 December 1932

(10) SERVICE PAY INEQUALITIES
(11) PROTEST MARINE CORPS REDUCTION
(12) PENETRATION OF ARMY BOMBS
(13) WEBBING TYPE OF HARNESS
(14) ARMY TRUCK TESTS

8—ARMY, NAVY AND AIR FORCE GAZETTE (Great Britain)

15 September 1932

(1) ARMOURED BRIGADE VERSUS INFANTRY DIVISION
(2) WAR SUPPLIES AND STANDARDISATION
(3) MODERN ADMINISTRATION, ORGANISATION AND TRANSPORTATION. Major-General Harding-Newman
(4) REFLECTIONS UPON THE SHENANDOAH VALLEY CAMPAIGNS, 1861-62. Major Dening

22 September 1932

(5) ORGANISATION AND TRANSPORTATION. The co-relation of strategy and supply. (I) Major-General Harding-Newman

29 September 1932

(6) ORGANISATION AND TRANSPORTATION. The co-relation of strategy and supply. (II) Major-General Harding-Newman

6 October 1932

(7) SCIENCE AND DISARMAMENT
(8) ANTI-TANK DEFENCE
(9) ARMY TRAINING IN 1932. (I) Major-General Aston
(10) ORGANISATION AND TRANSPORTATION. (III) Major-General Harding-Newman

13 October 1932

(11) FRENCH ARMY MANEUVERS
(12) MECHANISED VERSUS NORMAL DIVISIONS
(13) ITALIAN ARMY MANOEUVRES
(14) ARMY TRAINING IN 1932. (II) Major-General Aston
(15) ORGANISATION AND TRANSPORTATION. (IV) Major-General Harding-Newman

20 October 1932

(16) ARMY TRAINING IN 1932. (III) Major-General Aston
(17) REMOVAL OF PROMOTION INJUSTICES
(18) TRAINING OF HIGHER COMMANDERS
(19) ATTACK VERSUS DEFENCE — A FRENCH VIEW. (I)

27 October 1932

(20) DEFENCE OF THE DOMINIONS
(21) OTTAWA AND IMPERIAL DEFENCE
(22) ATTACK VERSUS DEFENCE — A FRENCH VIEW. (II)
(23) PREVENTING PROMOTION STAGNATION IN R.A.F.
(24) SEAMANSHIP TRAINING. (I) By "Navalis"

3 November 1932

(25) SUPPLY BY AIR. By "Saracen"
(26) THE MOVE OF A BATTALION BY AIR
(27) SEAMANSHIP TRAINING. (II) By "Navalis"

10 November 1932

(28) CANADIAN DEFENCE REQUIREMENTS
(29) OFFICERS TRAINING CORPS CAMPS, 1933
(30) SEAMANSHIP TRAINING. (III) By "Navalis"

17 November 1932

(31) THE DISARMAMENT DEBATE
(32) SAFETY IN DISARMAMENT OF AGGRESSORS
(33) AERIAL BOMBARDMENT
(34) LONG RANGE AIRCRAFT NEEDED
(35) TERRITORIAL ARMY FINANCE. Colonel Codrington
(36) LAW AND THE SERVICES—XIX. DUTIES IN AID OF THE CIVIL POWER. Major Parkes

24 November 1932

(37) BRITISH DISARMAMENT POLICY
(38) THE NAVAL PLANS
(39) AIR FORCE LIMITATION
(40) NAVAL BUILDING PROGRAMME
(41) AERIAL MARKSMANSHIP
(42) GUSTAVUS ADOLPHUS — INNOVATOR. Major Eady
(43) TERRITORIAL ARMY PRIZE ESSAY: "HOW CAN THE TERRITORIAL ARMY TO-DAY MOST SUCCESSFULLY FILL THE MILITARY REQUIREMENTS OF THE EMPIRE . . ." Lieutenant Rogers

1 December 1932

(44) AIR POWER AND DISARMAMENT
(45) THE TERRITORIAL ARMY. Major Dunlop

(46) REPORT OF THE PRIVATE MEMBERS OF THE HOUSE OF COMMONS ECONOMY COMMITTEE: EXPENDITURE ON DEFENCE SERVICES
(47) THE FUTURE IN MANCHURIA. Brigadier-General Bruce

8 December 1932

(48) ARMY SENIOR OFFICERS
(49) THE TERRITORIAL ARMY. Major West
(50) ARMY AND AIR FORCE CO-OPERATION. By "Militaris"
(51) THE NEW GERMAN DIVISION AND CAVALRY DIVISION

15 December 1932

(52) JAPAN AND NAVAL LIMITATION
(53) MECHANISATION IN ITALY
(54) DISARMAMENT—A VOICE FROM THE DOVECOT. By "Saracen"
(55) THE SIZE OF BATTLESHIPS. (I) By "Navalis"

22 December 1932

(56) UNIVERSITY AIR SQUADRONS
(57) GERMAN CIVIL POPULATION AND AIR DEFENCE
(58) ITALIAN NAVAL PROGRESS
(59) THE TERRITORIAL ARMY. Major Hollingsworth
(60) THE SIZE OF BATTLESHIPS. (II) By "Navalis"

29 December 1932

(61) MARSHAL JOFFRE. Brigadier-General Edmonds
(62) AN OPEN LETTER TO GENERAL X
(63) GERMANY'S MILITARY LEADERS
(64) SCOUTING SEAPLANES

9—ARMY ORDNANCE

September-October 1932

(1) THE NEEDS OF INDUSTRIAL MOBILIZATION. Colonel Sewell
(2) POSSIBILITIES OF THE TANK. Major-General Fuller
(3) ST. LOUIS: STRATEGIC ORDNANCE CENTER. Colonel Singleton
(4) THE MODERN ULTRALIGHT TANK. Lieutenant Icks
(5) THE REDUCTION OF ARMAMENT. I: The purpose, organization, duties and efficiency of our Army. Lieut. Colonel Mettler
(6) ORDNANCE TROOPS AT THE PANAMA CANAL. Training the soldier-specialist for combat and supply. Lieutenant Donald
(7) THE WAR OF THE PACIFIC, 1879-1883. Proof of the high cost of obsolete ordnance. Captain Parks

November-December 1932

(8) THE ORDNANCE RECORD FOR 1932. Major General Hof
(9) OUR NEW PACK ARTILLERY. Captain Goebert
(10) THE REDUCTION OF ARMAMENT. II: The United States military plan and munitions supply. Lieut. Colonel Mettler
(11) LIDDELL HART ON WAR. Major Armstrong
(12) PRIORITIES FOR THE NATION IN ARMS. Lieut. Colonel Ross
(13) POSSIBILITIES OF THE TANK

10—ARMY QUARTERLY (Great Britain)

October 1932

(1) PLUMER OF MESSINES: AN APPRECIATION. General Harington
(2) THE FRENCH OFFICIAL ACCOUNT OF THE WAR: 14TH OF NOVEMBER, 1914—1ST OF MAY, 1915
(3) THE OPERATIONS OF THE 15TH DIVISION ON THE EUPHRATES, 1917-1918. Captain Davies
(4) DISCIPLINE: ANCIENT AND MODERN. Lieutenant Thurburn
(5) DISARMAMENT. Captain Wade
(6) THE GERMAN CATASTROPHE OF THE 8TH OF AUGUST, 1918
(7) THE STUDY OF MILITARY HISTORY: A REPLY TO "THE LEGEND OF THE SHENANDOAH VALLEY." Captain Whitehead
(8) SOME LUCKNOW MEMORIES, BEING LEAVES FROM THE PAPERS OF SIR GEORGE COUPER, BART., K.C.S.I., C.B., C.I.E. Lieut.-Colonel Thornton
(9) THE SOLDIERLY SPIRIT. General Barrow
(10) WHERE IS THE DECISIVE POINT? Major-General Bird
(11) "HOW TO SUCCEED IN THE ARMY"—A REPLY. By "General Staff"
(12) THE TRANS-SAHARA RAILWAY. Lieut.-Colonel Crocker
(13) TALES OF MY UNCLE. NO. 3.—BAGGAGE. Severn

13—BULLETIN BELGE DES SCIENCES MILITAIRES (Belgium)

BY LIEUT. COLONEL L.P. HORSFALL

October 1932

(1) LA BATAILLE DE L'YSER. [The battle of the Yser.] Colonel Duvivier
A lecture on the operations of the Belgian Army, 18-30 October 1914.
(2) LA PRISE DE LOMBARTZYDE PAR LE 9E DE LIGNE (22 ET 23 OCTOBRE

1914). [The capture of Lombartzyde by the 9th Regiment, 22 and 23 October 1914.] Lieut.-Colonel Jones

A study of the operations of a Belgian regiment, 20-22 October 1914.

(3) LA 2E COMPAGNIE DU IIIE BATAILLON. [The 2d Company of the 3d Battalion of the 9th Regiment at the Battle of Lombartzyde, 22-23 October 1914.] Lieut.-Colonel Van Parys

A study of the operations of a Belgian company.

(4) UN CENTENAIRE OUBLIÉ: LA CAMPAGNE DES DIX JOURS EN 1831. [A forgotten centennial: The ten-day campaign in the month of August, 1831.] (IV) Lieut.-Colonel Verhaegen

Operations in Flanders a hundred years ago.

(5) LA PRÉPARATION D'ARTILLERIE DANS L'ATTAQUE. [Artillery preparation prior to an attack.] Major Sottiaux

An elaboration of the methods prescribed in the Belgian regulations for firing artillery preparations. It gives methods of procedure and the nature of the functions of different commanders in greater detail. Several practical suggestions for formulating a firing program are tabulated for convenient reference.

(6) FONCTIONNEMENT ET FRACTIONNEMENT DES C.T. [The functions and organization of transportation units.] Colonel Robyns

Concerns Belgian Army transportation problems.

November 1932

(7) PAGES D'HISTOIRE DE L'ARMÉE BELGE AU COURS DE LA GUERRE 1914-1918.—HISTORIQUE DES DÉTACHEMENTS CYCLISTES. [Pages from the history of the Belgian Army during the World War, 1914-1918.—The history of the volunteer cyclist detachments of the 3d Division.] Major Gerard & Lieut.-Colonel Keymeulen

On 20 September 1914, the Belgians created seven detachments of cyclists, and sent them out with the mission of destroying communications systems, such as railroads, telephone and telegraph lines, that might be of use to the Germans. The experiences of these two detachments of the 3d and 5th Divisions show that they accomplished their mission very well indeed. It is interesting to note that these detachments moved so rapidly and so secretly, that much of the destruction they wrought was charged to the local inhabitants by the Germans, and brought about severe reprisals on the innocent population.

(8) VERS L'ARMÉE DE DEMAIN. [The army of tomorrow.] Lieut.-Colonel Van Overstraeten

An article predicting a greater use of motorized and mechanized units. Much of the article is based on two books: one by Sir F. Maurice, "British Strategy," and the other by Capt. Liddell Hart, "The British Way in Warfare."

(9) TECHNIQUE D'ETAT-MAJOR: DE L'ORGANISATION DES MARCHES. [General Staff technique. March organization.] (III) Lieutenant Thonnard

This article is Chapter III of a series. A map problem is presented, solved, and discussed. The text is illustrated with numerous march graphs and diagrams.

(10) LA GÉOLOGIE APPLIQUÉE À L'ART MILITAIRE. [Geology applied to war.] Major Stevens

The author presents the thesis that a study of geology by officers is valuable in obtaining a proper understanding of the use of terrain. He supports his points with interesting historical examples, taken from actual operations.

(11) LE RÉGIMENT LÉGER DE C.A., DANS LA MARCHE VERS L'ENNEMI. [The function of a mobile regiment as part of a corps, in the march towards an enemy.]

This article concerns march security, and the discussion is supported with an example from history taken from a book by Grasset, "Vers Ethe." A footnote lists other articles discussing the same theme.

14—CANADIAN DEFENCE QUARTERLY (Canada)

October 1932

(1) MILITARY SURVEY. Major-General McNaughton

(2) JENGHIZ KHAN'S INVASION OF SOUTH WESTERN ASIA. Flight Lieutenant Walker

(3) COMMUNICATIONS BETWEEN THE ARMY AND AIR FORCE. Squadron Leader McEwan

15—CAVALRY JOURNAL

September-October 1932

(1) A SUGGESTED PROCEDURE TO BE FOLLOWED WHEN A LINE TROOP OF CAVALRY IS ORDERED TO PREPARE FOR IMMEDIATE FIELD SERVICE OF INDEFINITE DURATION. Lieutenant Drury
(2) CAVALRY MACHINE GUNS IN DEFENSE. Lieutenant Campbell
(3) THE RAID ON KOROSTEN. Captain Hinterhoff, Polish Army
(4) THE IMPONDERABLES IN AN ESTIMATE OF THE SITUATION. Colonel Jenkins
(5) THE RUSSIAN PLAN OF CAMPAIGN IN THE WORLD WAR (1914). Colonel Nikolaieff
(6) A DECADE OF ARMY SCHOOLS. Lieut.-Colonel Lentz

16—CAVALRY JOURNAL (Great Britain)

October 1932

(1) CAVALRY IN FRANCE: MARCH-APRIL, 1918. Part III. Lieut.-Colonel Preston
(2) CELEBRATED WAR HORSES. Paine
(3) THE APPROACH-MARCH OF THE CAVALRY. (Translated from "Wissen und Wehr") (See also: RCML No. 45, page 41)
(4) THE ARMY MULE: AN APPRECIATION. Lieut.-Colonel Goldschmidt
(5) CAVALRY BATTLE HONOURS: PART V. "DETTINGEN." Major Edwards
(6) MASS VERSUS MOBILITY. (A brief study of the evolution of offensive tactics in the mobile arm)

17—CAVALRY SCHOOL MAILING LIST

15 December 1932

(1) OUTLINE OF THE USE OF CAVALRY IN THE WORLD WAR. Major Perry
(2) THE NEW HALGER-ULTRA BULLET. Major Boles
(3) LESSON OF THE TANKS. (G-2 Report) Captain Liddell Hart
(4) CAVALRY CONCENTRATIONS. (Translation from "Wissen und Wehr," April 1932)
(5) EXTRACTS FROM THE ANNUAL REPORT OF MAJOR GENERAL STEPHEN O. FUQUA, CHIEF OF INFANTRY
(6) THICKNESS OF ARMOR PLATE FOR FUTURE INFANTRY TANKS FROM THE TACTICAL VIEWPOINT. Captain Lee
(7) THE MODERN ULTRALIGHT TANK. Icks
(8) "TANK DESTROYER" UNDER TEST BY BELGIAN ARMY
(9) TANKS EQUIPPED WITH VOICE RADIO. Lieutenant Purcell
(10) TACTICAL INSTRUCTION INDOORS
(11) THE MCPHERSON MACHINE GUN FIRING SIMULATOR. Lieutenant Gayle
(12) THE STOKES-BRANDT 81 MM MORTAR. Major Hibbs
(13) YELLOW SMOKE PARACHUTE
(14) A DECADE OF ARMY SCHOOLS. Lieut. Colonel Lentz

18—CHEMICAL WARFARE

October 1932

(1) SOME INTERESTING SMOKE BOMBS
(2) EMPLOYMENT OF CHEMICAL TROOPS IN THE ATTACK OF THE AMERICAN 1ST DIVISION, DURING THE SECOND PHASE OF THE MEUSE-ARGONNE OFFENSIVE, 1918
(3) THE TACTICAL EMPLOYMENT OF CHEMICALS BY A CAVALRY (MECHANIZED) FORCE
(4) USE OF SMOKE BY THE COAST ARTILLERY

19—COAST ARTILLERY JOURNAL

September-October 1932

(1) FIELD TRAINING OF THE 52ND COAST ARTILLERY (RAILWAY). Lieut.-Colonel Turtle
(2) THE 103D TRENCH MORTAR BATTERY IN THE ARGONNE. Lieut.-Colonel Tenney
(3) THE RELATION OF HARBOR DEFENSES TO NAVAL AND MILITARY STRATEGY. Captain Milburn
(4) THE IMPONDERABLES IN AN ESTIMATE OF THE SITUATION. AS ILLUSTRATED BY STONEWALL JACKSON'S VALLEY CAMPAIGN. Colonel Jenkins
(5) THE RUSSIAN PLAN OF CAMPAIGN IN THE WORLD WAR (1914). Nikolaieff
(6) A DECADE OF ARMY SCHOOLS. Lieut.-Colonel Lentz

20—FIELD ARTILLERY JOURNAL

November-December 1932

(1) THE ANNUAL REPORT OF THE CHIEF OF FIELD ARTILLERY
(2) WHAT THE ARTILLERY ACCOMPLISHED AT ST. MIHIEL. Colonel Lanza
(3) FRENCH ARTILLERY DOCTRINE. Major Wood
(4) ACCOMPANYING ARTILLERY. Lieutenant Hunt

21—FIGHTING FORCES (Great Britain)

October 1932

(1) SECURITY THROUGH DISARMAMENT. Major Lefebure
(2) MOBILITY AND ANTI-MOBILITY. Captain Liddell Hart
(3) THE BOLSHEVIST THREAT TO CHINA. Brigadier General Bruce
(4) FACE SAVING IN THE FAR EAST. Combpyne
(5) JUTLAND. Lieut.-Commander Willock
(6) NOTES ON THE PALESTINE CAMPAIGN. Major Burne
(7) LIGHT AEROPLANES AND WIRELESS
(8) ANOTHER ROMANTIC PROFESSION. Major Porter

23—INFANTRY JOURNAL

September-October 1932

(1) PROPOSED DEPARTMENT OF NATIONAL DEFENSE DISCARDED BY FRANCE
(2) LET'S KEEP THEM GOOD INFANTRYMEN. Major Stevens
(3) 20 YEARS AGO. (A reprint of an article by First Lieutenant B.F. Miller)
(4) HISTORICAL MAP PROBLEM
(5) THE MCPHERSON MACHINE GUN FIRING SIMULATOR. Lieutenant Gayle
(6) WHO WON THE MARNE? Captain Liddell Hart, British Army
(7) THE RUSSIAN PLAN OF CAMPAIGN IN THE WORLD WAR (1914). Nikolaieff
(8) A DECADE OF ARMY SCHOOLS. Lieut.-Colonel Lentz
(9) TEACHING THE SOLDIER TO WALK. Captain Rustemeyer
(10) THE IMPONDERABLES IN AN ESTIMATE OF THE SITUATION. Colonel Jenkins
(11) NOTES FROM THE CHIEF OF INFANTRY

November-December 1932

(12) CATERPILLAR OR SCORPION? Lieut.-Colonel Stilwell
(13) IRONCLAD FIELD ARTILLERY. Major General J.F.C. Fuller, British Army
(14) REGIMENTAL GAS DETACHMENTS IN THE NATIONAL GUARD. Lieut.-Colonel de Roulet
(15) WHY NOT?
(16) KHAN DHU. Lieutenant Merriweather
(17) COLLAPSIBLE CLOTHING AND EQUIPMENT RACK FOR PYRAMIDAL TENTS. Captain Ringe
(18) AN INFANTRY PROBLEM
(19) UNCLE SAM'S WARRIORS OF THE CAMPUS. Major Hobson
(20) VITAL FACTORS IN WORLD WAR. By Ponocrates
(21) THE REAL CONFLICT AT SHANGHAI: INTERNATIONAL LAW VS. TACTICS
(22) THE SIGNAL CORPS PHOTOGRAPHIC LABORATORY. Captain Notestein
(23) FRIENDLY ARTILLERY FALLING SHORT. Lieut.-Colonel Brisbine
(24) NOTES FROM THE CHIEF OF INFANTRY: ROSTER OF OFFICERS, INFANTRY REGIMENTS (DECEMBER, 1932)
(25) INFANTRY COMBAT EXERCISES. Brig.-General Cocheu
(26) EXPERIMENTAL INFANTRY ORGANIZATIONS
(27) NATIONAL GUARD NOTES: THE NATIONAL GUARD CONVENTION

25—JOURNAL OF THE ROYAL ARTILLERY (Great Britain)

October 1932

(1) VIGOROUS AND IMMEDIATE ARTILLERY SUPPORT. (Artillery training, Vol. III, paragraph 46) Captain Dibb
(2) THE RAPID DEPLOYMENT OF FIELD ARTILLERY. Major Allen
(3) ARTILLERY SURVEY IN AUSTRALIA. Captain Wilson
(4) GALLIPOLI REVISTED. Major Harrison
(5) A MOMENTOUS MISSION. Colonel Marshal-Cornwall
(6) THE 38TH (WELSH) DIVISION IN THE LAST FIVE WEEKS OF THE GREAT WAR. Major-General DePree (Chapters VI & VII)
(7) THE MODERN DIVISIONAL ARTILLERY GUN. General Challéat
(8) GERMANY TO-DAY.—THE FACTORS. Major Reynolds

26— JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION (Great Britain)

November 1932

(1) SAIL TRAINING FOR THE NAVY. Commander Steele
(2) ARMY TRAINING, 1932. Captain Kennedy
(3) PROGRESS IN CIVIL AVIATION. Lieut.-Colonel Shelmerdine
(4) "THE WEAPON OF THE WEAK."—A FRENCH VIEW. Admiral Castex
(5) THE SUBMARINE AND INTERNATIONAL LAW. Lieutenant Fawkes

(6) THE ORGANIZATION OF THE ANTI-SUBMARINE SERVICE. Rear-Admiral Arnold-Foster
(7) THE DEVELOPMENT AND FUTURE OF THE FORTRESS. Major-General Thuillier
(8) STRATEGIC PROBLEMS OF IRAQ. Colonel Beadon
(9) THE COUNTY REGIMENT AND THE DEPOT. Lieutenant Jones
(10) INFANTRY RE-ORGANIZATION. By an ex-regimental officer
(11) SOUTH PERSIA DURING THE GREAT WAR. Lieut.-Colonel Hamilton
(12) AIR EXERCISES, 1932. Major Robertson
(13) WAR GAMES. Major Pemberton
(14) FRENCH AIR BOMBING UNITS IN THE GREAT WAR
(15) THE BALEARIC ISLANDS AS A BASE FOR OPERATIONS
(16) THE DISARMAMENT CONFERENCE
(17) THE HOOVER PROPOSALS—CRUISERS
(18) GERMANY AND EQUALITY IN ARMAMENTS. Major Reynolds
(19) THE FAR EASTERN SITUATION
(20) THE TRAFFIC IN ARMS. Clifford
(21) NAVY NOTES
(22) ARMY NOTES
(23) AIR NOTES
(24) JAPAN: THE SHANGHAI OPERATIONS

27—JOURNAL OF THE UNITED SERVICE INSTITUTION OF INDIA (Great Britain—India)

October 1932

(1) "DISARMAMENT, AND ITS EFFECT ON THE FOREIGN POLICY OF THE BRITISH EMPIRE." (The Gold Medal Prize Essay, 1932) Lieutenant Thurburn
(2) PRE-WAR. By "Mouse"
(3) THE PRESENT INTERNATIONAL ECONOMIC CRISIS AND THE GOLD STANDARD. Taylor
(4) THE BATTLES OF THE MASURIAN LAKES. Lieut.-General Golovine
(5) A SPASM. By "Phoenix"
(6) THE AMERICAN CIVIL WAR, 1861-62. By "Longtimber"
(7) FRANCE: MINISTRY OF NATIONAL DEFENCE
(8) SPAIN: MILITARY LAWS

28—MARINE CORPS GAZETTE

November 1932

(1) THE MARINE CORPS: ITS MISSION, ORGANIZATION, POWER AND LIMITATIONS. Colonel Miller
(2) "AND BY MAINTENANCE IN READINESS OF EXPEDITIONARY FORCES." Major McClellan
(3) SYNOPSIS OF ECONOMY ACT DECISIONS. Compiled by Captain Dye
(4) FEDERAL APPROPRIATIONS. ("Something to think about.") Contains statistics diagram

29—MILITARWISSENSCHAFTLICHE MITTEILUNGEN (Austria)

BY MAJOR A. VOLLMER

July-August 1932

(1) DIE ENTWICKLUNG DER OPERATIVEN IDEE VOR AUSBRUCH DES WELTKRIEGES. [The development of the strategic idea before the outbreak of the World War.] Oberst Kiszling

The author first passes in review the strategic ideas prevailing in the wars of the last 150 years: Frederick the Great's operations on interior lines, and his celebrated oblique battle order; Napoleon's mass blows regardless of losses, his striking at the enemy's line of retreat, and his masterly operation on interior lines; the concentrations, deceptive flank marches, and containing maneuvers of Radetzky in 1848-9 and Archduke Charles in 1866; Moltke's envelopments of 1866 and 1870; and finally the influence exerted by increase in battlefield area, more extended use of field fortifications, and increased duration of operations.

Having brought the account down to modern times the author next considers the pre-World War evolution of strategy among the chief military nations: the Franco-Russian Alliance, causing the German outlook for a war on two fronts; the necessity for a new plan in lieu of superior weapons and numbers which were the principal factors of success respectively in 1866 and 1870.

Thus in Germany was born the Schlieffen plan of immediate advance and crushing defeat of one adversary before turning to face the second. But the World War execution of this plan was faulty—it had been altered particularly in reducing the essential number of corps. For this reason it was unsuccessful.

In Austria, Conrad von H"tzendorf, the Chief of Staff, carried over into strategy his tactical ideas.

Here too, the doctrine was adopted of a decisive defeat over one of the foes.

After the Franco-Prussian War French doctrine was defensive, then it became offensive, only to return to the strategic defensive in 1895. In 1898 the General Staff Plan XIV involved bringing all five armies in three echelons on to a front 90 miles broad between Metz—Troyes and Belfort—Vésaul. In this plan the French were cast in a passive role, looking to counterattack for victory. Not until 1913 was this doctrine supplanted by a new one, one of swift attack in depth on a narrow front.

There is very little data from which to trace the development of strategy in Russia. However, from 1880 onwards, she planned offensives against Austria and Germany. These were abandoned after the Russo-Japanese War. In 1911 through French stimulus the offensive idea again took root. The poor execution of this idea is attributed to ignorance on the part of Russian leaders, and the lack of a common and thorough education. Though Russian plans for 1914 contemplated an encirclement of the German Eighth Army, in the Schlieffen sense of a "Cannae," their functioning was so slow that Ludendorff was able to estimate their actions and forestall them by speed of movement. Henceforth the only Russian strategy persisting was that of the steam roller.

(2) DIE ISONZOVERTEIDIGUNG VOM FALLE VON GÖRZ BIS ZUR EROBERUNG VON KARFREIT. [The defence of Isonzo from the fall of Gorizia to the capture of Caporetto.] Oberst Veith

The third article of a series of which the first two were entitled: "The First Battles Against the Italians" and "The Defense of the Isonzo to the fall of Gorizia." Gorizia was taken by the Italians in August 1916 in the sixth battle of the Isonzo. This article covers the last six battles—a period of fourteen months.

(3) WIE ES IM SOMMER 1916 ZUR BRUSSILOW-OFFENSIVE KAM. [Events leading up to the Brussilow offensive in the summer of 1916.] Oberstleutnant Diakow

An account of the second Russian offensive in 1916. The plan of Alexeieff, "the finest character and most capable of Russia's leaders" was to strike against the Germans toward Vilna. Two of the three commanders, Kuropatkin and Ewerth, opposed it. The third, Brussilov, pleaded that it be undertaken in his own front. It was carried out as planned by Alexeieff, with a subsidiary operation in Brussilov's front. It was so successful that it very nearly decided the fate of the Austro-Hungarian Army.

(4) DIE FRANZÖSISCH-BELGISCH-HOLLÄNDISCHEN BEFESTIGUNGEN. [French, Belgian and Dutch fortifications.] Generalmajor Schäfer

Fortresses are classified according to the experience of the World War into those that are valuable and those that are of no value. The present opinion is stated viz., that fortresses are valuable if in all respects answering to modern requirements. Post war fortification has been limited to France and Belgium. The World War has taught the great value of the right kind of fortress in the right place and the disadvantage of not having them where needed, e.g., Northern France.

The systems adopted by France and Belgium are a combination of the pre-war system and the "continuous system," namely near the frontier a fairly continuous chain of fortified posts, farther back fortresses with girdle forts. Holland has a complete scheme of permanent fortification as published in the "Deutsche Wehr," 4 December 1931.

Thus against disarmed Germany there are arising permanent fortifications from the Mediterranean to the North Sea, presenting an absolutely impassible barrier. Only a rich country like France can have an insuperable fortification system and an army and air force entirely equipped for the purpose of the offensive.

(5) DIE ANLAGE DES ANGRIFFES. [Preparation for the attack.] Oberstleutnant Rendulic

Deals with the attack of a position when the defender has completed his preparations for the defense.

(6) ARTILLERIE-SCHIESSAUFGABEN. [Artillery fire problems.] Oberstleutnant Krischer-Wehregg

(7) PRAKTISCHE ERGEBNISSE DER PSYCHOTECHNIK IM BUNDESHEER. [Practical results of psychotechnique in the Austrian army.] Major Fechner

An account of the army psychotechnique center which tests soldiers before training as specialists, e.g., motor drivers, telegraphers, radio operators, etc.

(8) JOFFRE UND DIE MARNE. [Joffre and the Marne.] Generalmajor Schäfer

A review by Major General Schäfer of "Joffre et la Marne," by Commandant Muller.

(9) WELTKRIEGSLITERATUR. [Literature of the World War.] A survey of publications containing general accounts of the political and military events.

September-October 1932

[NOTE: This number concludes the 9-year editorship of Major General Schubert who has brought this periodical to its present scholarly and imposing form. He is, furthermore, the author of other publications, e.g., "The Most Important Campaigns of the World's History," as well as having undertaken the production of the Austrian Official History of the War.]

(10) AUFMARSCH UND TÄTIGKEIT DER AMERIKANISCHEN ARMEE IM WELTKRIEGE. [The assembly and activity of the American Army in the World War.] (I) Generalmajor Adler

A resumé of the accounts of the "U.S. Official Pictures of the World War," Pictorial Bureau, Washington, 1920.

(11) DIE AUSSPÄHUNG UND DEREN ABWEHR. [Espionage and counter-espionage.] Feldmarschalleutnant Urbanski v.Ostrymiecz

Lessons drawn by and from the experiences of a former head of this service: (1) Results are in proportion to the amount of money spent; (2) It is effective only when established in peace time; (3) It is most effective when given publicity—the general public is of great help; (4) Accredited spies are often found among military and naval attaches; (5) Propaganda was successful with the British as well as with the Austrians; (6) Fear of spies—a psychological disease—should be avoided; (7) Minor enemy newspapers and periodicals are a fertile source of information.

(12) DIE DURCHFÜHRUNG DES ANGRIFFES. [The conduct of the attack.] Oberstleutnant Rendulic

Treats of the meeting engagement up to the point where similarity begins with the attack upon a position.

(13) HERANBILDUNG UND FORTBILDUNG DER BERUFSOFFIZIERE IN DEUTSCHLAND, ITALIEN UND IN DER TSCHECHOSLOWAKEI. [Training of regular officers in Germany, Italy and Czechoslovakia.] Generalmajor Schäfer

GERMANY: Those who have had the complete instruction of the soldier are admitted. The first year is basic to all branches. Place: The Infantry School at Dresden. In the second year separation into branches occurs as follows: (a) Infantry and transport corps candidates continue at Dresden; (b) Artillery and Signal go to the Artillery School at Jüterborg; (c) Cavalry—to the Cavalry School at Hanover; (d) Engineers—to the Engineer School at Munich.

All schools under the direction of the Army School Inspector. When courses are completed candidates are assigned to troops. Following an old custom, to become an officer the candidate must be elected by the corps of officers. After his nomination to the grade of 2d Lieutenant the officer remains about six years with troops.

At the end of this period begins preparation for the "Wehrkreisprüfung"—a system of promotion examinations to which all have to submit. It is partly written, partly oral, in the following subjects: (a) Military subjects: tactics, armament, engineers; (b) General konwledge: history, geography, political economy, foreign languages; (c) Physical training; (d) Mathematics, physics, chemistry.

After this examination officers are divided into: (1) General Staff; (2) Instructors in technique and training; (3) Troop officers.

Of about 150 officers who go through the "Wehrkreisprüfung" each year about 30 go to the General Staff, 6 to 8 as instructors and the rest as troop officers. Those chosen as instructors go to the universities. Those for the General Staff receive

their training for a number of years under special professors. The rest receive their further training with the troops and are also available for a variety of other details.

ITALY: Two military academies: Infantry and cavalry at Modène, artillery and engineers at Turin. ¾ of the candidates come from civil life, ¼ from noncommissioned and reserve officers. The Chief of the General Staff has the direction of the schools.

The newly made 2d Lieutenants must pursue a course of application in their own branch or technical specialty, the infantry at Parma, the cavalry at Pinerolo and at the Tor di Quinto near Rome, the artillery at Turin, the medical service at Florence, the carabiniers at Florence. The courses last one year except for artillery and engineers, who attend two years.

There are also the following "central" schools: Infantry, artillery and engineers at Civitavecchia, and physical education at Rome. A School of Fire for artillery exists at Nettuno with a section at Broccino.

Captains of ordnance and engineers are specially trained in a school of technology for 2 years.

For admission to the Ecole de Guerre at Turin officers must have 3 years service and be from 26 to 36 years old. Marine and air officers attend this course, as well, although they have their own higher military schools.

CZECHOSLOVAKIA: There is but one school for the training of officers: the military academy of Mährisch-Weisskrichen in 2 sections: (a) for infantry, cavalry, engineers, and transport; (b) for artillery.

There is, in addition, a number of courses whose purpose is the perfecting of the officers in the technique of their branches and other specialties.

For admission to the Ecole de Guerre, officers must be between 26 and 36 years of age and have had six years of service as officers. There is the peculiarity that the requirements for admission include a knowledge of typewriting and stenography.

(14) INTENDANZDIENST IM GEBIRGSKRIEGE. [Service of supply in mountain warfare.] Militär-Oberintendanturrat Glingenbrunner

Lectures to the Quartermaster, Supply and Commissary Section of the Officers Association of Zurich, Switzerland.

The first of a series of articles presenting two historical examples of the difficulties of supply in mountain warfare. They will show that only by dint of untiring and exhausting efforts on the part of the Staff and services is it possible to maintain the well-being of the front troops.

(A) The I Corps in the Carpathians September 1916 to May 1917.—Military situation; supply estimate of the corps theatre; supply organization; supply situation in the fall of 1916; organization of corps depots; bread supply; meat; horses; corps lines of supply; maintenance of supply; roads; water; cooking equipment; supply with troops; shelter and welfare; clothing and laundry; salvage; finance; conclusions. (To be continued)

(15) EIN NEUZEITLICHER TEXTILERSATZ IM KRIEGE. [A new substitute for textiles in war.] Militär-Oberintendanturrat Hevler

Discusses artificial silk as suitable not only for powder bags but for textiles in countries short of textile fibers.

(16) DIE AUTOMATISCHEN WAFFEN SCOTTI IM RAHMEN NEUZEITLICHER INFANTERIEBEWAFFNUNG. [Automatic weapons as modern infantry arms.]

(17) WELTKRIEGSLITERATUR. [Literature of the World War.]

November-December 1932

(18) RÜCK- UND AUSBLICK. [Retrospect and prospect.—An editorial.]

Under the caption, "A people which has no past does not deserve a future" (von Humboldt), this highly idealistic editorial is addressed to Austrian national defense. It mentions the United States as having decided the World War, refers to the strengthening of her defenses, the restriction of her training to that of the war of movement with its chief doctrine that of attack, her plan of an army of millions, and her stress on the importance of the officer. It closes with the statement of the historian Mommsen: "History knows of no right to live without military power."

(19) DEM ANDENKEN DES FELDMARSCHALLS CONRAD. [In memoriam Field Marshal Conrad.]
(20) LÜTZEN. [Lützen.]
(21) AUFMARSCH UND TÄTIGKEIT DER AMERIKANISCHEN ARMEE IM WELTKRIEGE. [The assembly and activity of the American Army in the World War.] (II) Generalmajor Adler (A resumé of the "U.S. Official Pictures of the World War," Pictorial Bureau, Wash. 1920)
(22) DAS RÜCKGRAT DER DAUERFRONT IM OSTEN. SEIN AUFBAU JUNI 1915 BIS MAI 1916. [The backbone of the protracted operations in the east—its evolution June 1915 to May 1916.] General Ratzenhofer

A survey of the services of the railways on the Eastern Front in the World War.

(23) WAR SALONIKI 1915 ANZUGREIFEN? [Should Saloniki have been attacked in 1915?] Oberstleutnant Mühlhofer
(24) USKÜB. EINE BETRACHTUNG ÜBER DEN KAVALLERIEEINSATZ IN DER DURCHBRUCHSCHLACHT. [Uskub. A consideration of the employment of cavalry in the breakthrough battle.] Rittmeister Balck
(25) DIE TÜRKISCHEN MEERENGEN ALS NEUES KAMPFOBJEKT. [The Turkish straits as a new objective.] Dr. Sell
(26) ANLAGE UND FÜHRUNG DER VERTEIDIGUNG IM BEWEGUNGSKRIEG. Preparation for and conduct of the defense in the war of movement.]
(27) DAS GEFECHT BEI DUNKELHEIT. [Night attack.]
(28) ARTILLERISTISCH-SCHIESSTECHNISCHE FRAGEN. [Questions of artillery technique.]
(29) INTENDANZDIENST IM GEBIRGSKRIEGE. B. DAS I. KORPS IN DEN ALPEN IM JAHRE 1917. [Supply in mountain warfare. B. The I Corps in the Alps in 1917.]
(30) WELTKRIEGSLITERATUR. [World War literature.] III—Monographs.

30—MILITAR-WOCHENBLATT
(Germany)

BY MAJOR A. VOLLMER

4 September 1932

(1) DAS SCHICKSAL DER ABRÜSTUNGSKONFERENZ LIEGT IN FRANKREICHS HAND. [The fate of the Disarmament Conference depends on France.]
(2) OPERATIVER EINSATZ DER HEERESKAVALLERIE ZUR ENTSCHEIDUNG. [Strategic employment of cavalry for a decision.] Rittmeister Crisolli (See translation, page 91)
(3) TRUPPE UND EISENBAHN. [Troops and railroads.] (II) Generalleutnant Fleck

A continuation of examples from the World War of the functioning of the German railroads in strategic troop movements. These instances show the erroneous conception on the part of many as to their possibilities and limitations. The author believes that there should be instruction along this line and offers the following example (for Sketch, see "Militär-Wochenblatt," 4 Sept. 1932, p. 282) to impress the important points:

"The 1st Division (Password: 'Yorck') is detached from the First Army and is to be transported along the frontier to join the Second Army and to advance behind its left wing. Haste is essential. The division commander has driven ahead by automobile to the Headquarters Second Army. The commander of the 1st Infantry Brigade is directing the movement.

"First Requirement: The transport officer of the First Army Headquarters asks as to the wishes of the division concerning the entrainment and the trip, and discusses the following points with the infantry commander in charge of the movement: Distribution of the division at the entraining station in the area 'A'; use of unit and supporting trains; the construction of the necessary camps; order of departure of units; advance and rear echelons; security for the movement through armored cars, antiaircraft, guns, and machine guns; and whether or not trains will be run at night only. [See: F.u.G. (Conduct and combat of the combined arms—German Regulations) II, 666-734; 785-793; Appendix 5, pp. 307-327.]

"Second Requirement: Air attack at 'B' on troop train while en route. Destruction of station and bridge at that place. Estimate that transport can be resumed in 60 hours on original route, or in 48 hours by the route B-C-D. The mileage of B-D-E is 300 km. Decision and orders of the infantry commander in charge of the movement.

"Third Requirement: 3d Infantry reinforced by an artillery de-

tachment with proper elements in advance as required by the regulations had passed Point B before the air attack. On reaching the detraining point 'E' there occurs an attack by an enemy cavalry division on the arriving sections of this reinforced regiment. Measures taken by the regimental commander and the transport leader."

These three requirements are short ones and are to be discussed only so far as their essential points are concerned. There must be no interference by the troops in the domain of the railway administration but rather cooperation with it. This discussion consists of the purely tactical measures undertaken, beginning with the reinforced 3d Infantry and the sections of the 1st Division which are gradually arriving.

(4) MARSCHTECHNIK DER FUSZTRUPPEN. [March technique of foot troops.]

(5) DIE GROSZEN ITALIENISCHEN FLOTTEN- UND LUFTMANÖVER. [The great Italian fleet and air maneuvers.]

11 September 1932

(6) UM GLEICHBERECHTIGUNG UND SICHERHEIT. [Equal rights and security.]

(7) DISZIPLIN UND KURZAUSBILDUNG. [Discipline and short training.]

(8) FAHRENDE KAVALLERIE. [Cavalry transportation.] Major Buhle

A consideration of the types of horses suitable for vehicles to accompany cavalry.

(9) MOTORISIERTE KRÄFTE IN DER ROTEN ARMEE. [Motorized forces in the Red Army.]

(10) POLNISCHE GROSZMACHTSPOLITIK. [Polish national defense.]

(11) WELLINGTON ALS FELDHERR UND STAATSMANN. [Wellington as soldier and statesman]

18 September 1932

(12) GEDANKEN ÜBER DIE FÜHRUNG DES HINHALTENDEN KAMPFES. [Thoughts on delaying actions.] Oberst v.Mantey

Before the World War, except for special warfare (fighting in villages and woods), but three forms of combat were known to German tactics: attack, defense, and withdrawal. Delaying action was a secondary consideration. It took the World War to bring it into prominence.

On the Eastern Front it became necessary to prosecute long continued delaying actions in order to hold there until forces could be freed by victories on the Western Front. On the Western Front delaying action in position warfare later became a veritable delaying strategy.

Just as done on two fronts so delay on one part of a front is practicable, for example, in the sense of Frederick the Great: "To refuse one flank while going forward energetically on the other." This, too, was the Schlieffen plan of 1905 in constituting a "mobile withdrawal defense" for the German south wing on the west front.

A delaying action could well have been prosecuted on the right wing of the Third Austrian Army by Field Marshal Conrad von Hotzendorff while attacking the unprepared Russians on the left wing between the Bug and the Vistula. Instead of this he attacked the Third Army as well in 1914. This led to battles with the Russian Third and Eighth Armies, and the loss of the battle of Lemberg on 26 August 1914 and of the Galicia campaign. This could have been avoided as things were "made to order" for a long continued delaying action on the right flank. The terrain, rivers, swamps and mountains were ideal for this. This had been Schlieffen's plan of 1912—to delay on the East Front with reserves and Landwehr and to make the main effort in the west.

The Reichsarchiv work gives no example of a delaying mission which was executed as such—it was often intended, but the leaders always carried out the mission offensively. One did in fact occur in Rumania in 1916 but this has not yet been covered by the Reichsarchiv work.

The author sums up this form of combat as follows:

(1) It is a form of combat peculiar in itself;

(2) A distinction exists between

(a) Delaying actions long continued prosecuted by the high and middle commands, on a large scale, without plan, alternating between offense and defense, position and mobile warfare;

(b) Delaying actions intended as such, prosecuted by the middle

and lower commands, for a matter of hours only.

(3) The purposes of this combat are:

(a) To gain time until the required forces are ready (Frontier defense, Rumania, First Austrian Army);

(b) To make available forces elsewhere for decisive operations (weak forces Eastern Front 1914, mission for left wing according to Schlieffen plan of 1905)—this is the more important purpose;

(c) To exhaust the enemy and if possible destroy him (possibility for Third Austrian Army).

(4) Whereas in attack, defense, and withdrawal the action concerns the gain or loss of terrain, on the other hand the action in delay is a matter of gaining of time and force;

(5) The importance of terrain appears in the examples. It is not only necessary that it be exploited by the troops, but that it be selected for his purpose by the leader.

(6) Both for the higher and lower commanders delaying action, when long continued, involves every form of combat:

(a) Decisive attack for destruction of the enemy, when opportunity affords and he can get no support, as, e.g., in mountains. But the actions must be suited to the power. In Galicia, for example, the 5th Hungarian Cavalry Division, after a striking victory against a Russian division, was almost destroyed because it set for itself a goal which was far beyond its powers.

(b) Sacrifice attack, when necessary to insure success at another place.

(c) Fixed defense when, for example, a passageway between lakes must be defended at all costs.

(d) Defense coupled with withdrawal and renewed defense.

(e) A delaying action by utilization of long ranges and advanced elements, use of great quantities of ammunition, wide fronts, deceptions, withdrawals, etc.

(7) The leader must preserve the initiative (a) by constituting a main effort group or reserve, (b) by maximum mobility and damage to the enemy. Example of (a) are the battles of General von Below in East Prussia in October-November 1914. An example of (b) is the German leadership of Hindenburg-Ludendorff on the East Front in 1914.

(8) Training for delaying action must remain theoretical—but a maneuver extending over several days is appropriate.

(9) Destruction of bridges, railroads, etc., setting up of obstacles, etc., are important for delaying action as well as in training for it. The opening of the sluices at Newport is an example. It robbed the Germans of a victory and saved the Belgian Army. But such demolitions and destructions must be embarked on advisedly so that they will not react upon the perpetrator, as happened to the Germans on the Marne.

(13) UM DIE EINHEITSGRUPPE. [About the composite group.]

(14) FRANKREICHS WAHRES GESICHT. [France unmasked.]

(15) SCHUTZ LEICHTER KAMPFWAGEN GEGEN FEINDLICHE ABWEHRWAFFEN. [Protection of light tanks against antitank weapons.] A review of an article by Lt.Col. Welvert in the "Revue d'Infanterie" for 1 July 1932, digested in QRML No. 46, page 31.

(16) TAKTISCHE ANSICHTEN IN RUSZLAND. [Tactical views in Russia.]

(17) DIE BEDEUTUNG DER SOKOLBEWEGUNG FÜR DIE WEHRHAFTIGKEIT DER TSCHECHOSLOWAKEI. [The significance of the Sokol movements in the national defense of Czechoslovakia.]

(18) BOLSCHEWIKISCHE PROPAGANDA WÄHREND DES RUSSISCH-POLNISCHEN KRIEGES 1920. [Bolshevik propaganda during the Russo-Polish War of 1920.]

(19) GANZSTAHLWAGEN. [Steel wagons.]

(20) AUS DER WERKSTATT DER TRUPPE: KLEINKALIBERSCHIESZEN. [From the workshop of the troops: Small caliber rifle firing.]

27 September 1932

(21) HINDENBURG. [Hindenburg.]

(22) FRANKREICH LEHNT DIE DEUTSCHE GLEICHBERECHTIGUNG AB. [France repudiates German equality.]

(23) EINSATZ UND ERFOLGE DER KAMPFWAGEN IM WELTKRIEGE. [Employment and success of tanks in the World War.]

A summary of the use of tanks for those unacquainted with them.

1. Number and density of the tanks introduced by the Allies. First use on 15 September 1916 faulty according to the English view. They were used in little groups (Martel: "In the Wake of the Tank"); of two tank companies (49 Mark I) thirty-two reached the German lines.

Tank battle at Cambrai, 20 Nov. 1917. Nine English tank battalions (378 tanks, Mark IV, 28 ton) attacked on a front of 13 km. (29 per 1 km.) without artillery preparation. A breakthrough resulted to 9 km. behind the German front line.

Battle at Soissons 18 July 1918. Four French armies attack on a 120 km. front with 195 medium and 415 light Renault tanks (5 to 6 per 1 km. of front). The numbers are however deceptive, inasmuch as the tank attacks were concentrated at critical points: Mangin group 345 tanks on a 20 km. front (17 to 18 tanks per 1 km.) Degoutte group 560 tanks on a 16 km. front (31 to 32 tanks to each km. of front).

Battle of Amiens 8 August 1918. Nine English tank battalions attack on a 11 km. front with 360 Mark IV tanks (32 to 33 per km.). In addition, as second wave to exploit the breakthrough: 2 light tank battalions (96 medium Mark A [Whippets] and 16 armored cars). The latter pushed far into the rear lines and caused heavy damage.

Attack near the end of the war: 1 Australian division on 23 August 1918 against Chuignes and Herleville. 36 Mark V tanks on a 6½ km. front (5 to 6 tanks per km.). German defense well prepared. Terrain very favorable for defense. Troops defended desperately. As the new Mark V was proof against rifle bullets the German machine gun fire had no effect. The German machine guns were overcome by fire. One tank overcame 30 German machine guns (Improbable. Mil.-Woch., Editor). Another downed three antitank guns and a number of machine guns before it became a sacrifice to the second shot of a German field gun. Of 12 tanks of the 13th English tank battalion, 7 reached their goals after 1¾ hour battle.

2. Number, employment and success of German tanks.—On the front up to the end of 1918 there were 2 tank detachments with thirteen A 7 V tanks; 6 tank detachments with thirty-six captured English tanks—a total of 49 tanks. On 26 Oct. 1918 a tank replacement detachment was being constituted near Berlin.

From March 21st the German tanks were employed for 50 days. (Compare use of Allied tanks in 1918 to 11 Nov: French, from July 15, 45 days for 3988 tanks; British, from August 8, 39 days for 1933 tanks.)

The most considerable German success was Villers Bretonneux on 24 April 1918 (See "Militär-Wochenblatt" No. 2, 11 July 1931). Martel says of this ("In the Wake of the Tank," p. 31): "One German tank appeared and put out of action two of our tanks which were armed with machine guns. Thereupon one of our tanks armed with a 5.7 cm. gun put the German tank out of action only to be itself shot down by a German field gun. Then there appeared a number of other German tanks, but a preponderance of British tanks forced their withdrawal. One German tank was left behind in our lines. Also on other occasions German tanks were utilized but there were never more than 15 of their own and a few captured ones, and on these occasions they achieved little successes."

3. Method of German defense at the close of the War.—Active defense from September 1918: Creation of groups of all arms in the front line consisting of: 1 infantry platoon or company; infantry guns (operated by artillerymen) (2, 3.7, 5.7, 7.5, 7.62, 7.7 cm.); light trench mortar with flat trajectory mount; heavy machine gun with armor piercing ammunition; antitank rifles. For the passive defense these advanced groups were surrounded by light tank mines.

For their support "light mobile artillery to be kept in readiness," for example, field guns 16 or 96, new model, to be sent forward into the infantry zone as needed by the infantry.

From February 1918 each army had a mobile antitank defense: a detachment of field guns on trucks (each 10 guns). If tank-breakthroughs occurred the combined artillery opened direct fire. The anti-

aircraft guns gave a good account of themselves as they were drilled in quick firing on moving targets. As a mobile tank defense of the supreme command five field artillery regiments were motorized in November 1918: 150 guns (5.7 cm.) on trucks.

There was no system of supply of troops with antitank equipment. At the end of March 1918 the first antitank rifles ("TUF.-Gewehre," lit: Tank and airplane rifles) arrived at the front. By September 9, 1918, 4632 of these had arrived. In November 1918, that is, at the close of the War, the infantry finally received a cannon as its own weapon, namely the improved Becker 2 cm. cannon.

4. Results of the German antitank defense:

Aisne.—16 April 1917 (French Schneider tank) of 132 tanks attacking 76 were put out of action, 57 of them by artillery fire.

Cambrai.—20 November 1917. Of 378 Mark IV, 107 were put out of action.

Soissons.—18 July 1918. Degoutte Group: 1st day: of 223 tanks attacking, 102 were put out of action, 62 of them by artillery. Casualties of operating personnel, 25 per cent. 2d day: of 108 tanks attacking, 50 were put out of action. 3d day: of 52 tanks attacking, 48 were put out of action. Mangin Group: of 216 tanks attacking only 58 were rendered unserviceable. Casualties of operating personnel 6 per cent. The Germans quickly withdrew. In 6 days 30 km. were gained. Tanks were in motion for 80 hours.

Amiens.—8 August 1918. Of 360 plus 96 tanks on the first day, 100 were destroyed, on the 2d day 39, and on the 3d day 30. September 1918 battles: average casualties of tank personnel—39 per cent of the vehicles, 40 per cent of officers, 33 per cent of men. October 1918 battles: 50 per cent of the vehicles and 33 per cent of personnel.

(24) ANGRIFF UND VERTEIDIGUNG ALS ERFOLGREICHE KAMPFFORMEN. [Attack and defense as successful forms of combat.]

A statistical study based on Berndt, "Numbers in War," Vienna 1897, and Bodart, "Military-historical Lexikon," Vienna 1908. The latter arrives at the "tactical value" of a victory by dividing the strength plus casualties of the victor by the strength plus casualties of the loser. A table, based on this device, is presented contrasting the "attack victories" with those of "defense" in some 35 battles of history. This shows that the tactical value of "attack victories" has fallen while that of "defense victories" has risen; in other words "the attack of a position has become essentially more difficult than its defense."

Throughout the conclusions drawn from these statistics by the author and the consideration by him of the subject matter in wars of the past (including the World War), stress on the value of the defense is outstanding, as it has been in much recent German military literature. He concludes with the "golden mean" of Moltke: "It is the function of a clever strategy to meet the enemy's attack in a position selected by us, and only to attack him when casualties and exhaustion have weakened him."

(25) SPERREN DURCH WASSER. [Water obstacles.]

The technique of converting watercourses into military obstacles by diverting them to where they are needed.

(26) SO HABEN WIR POLEN AUFBEBAUT. [Thus we have rehabilitated Poland.]

(27) DIE PROPAGANDA IM KRIEGE. [Propaganda in war.]

(28) AUS DER WERKSTATT DER TRUPPE: SÄUBERUNG EINES SCHÜTZENGRABENS. [From the workshop of the troops: The clearing of a rifle trench.] An account of the methods employed by the squad in the French Army as taken from its manual for non-commissioned officers.

4 October 1932

(29) HÜTET DAS ERBE MOLTKES! [Conserve the heritage of Moltke.]

(30) ENGLANDS STELLUNGNAHME ZUR DEUTSCHEN GLEICHBERECHTIGUNG. [England's attitude toward German equality of rights.]

(31) WESEN UND GRUNDLAGE NEUZEITLICHER TAKTIK. [Principles of modern tactics.]

The desideratum is to do that which the enemy does not expect—provided it be halfway sensible, and done forcibly and decisively.

The judgements "right" and "wrong" are no more applicable to the field soldier than to the staffs

and higher commanders. None of these can go by rules. Thus there is not just one type of defense or attack. In defense—let alone the distinction of protracted defense and delaying action—one may (a) open fire at long ranges in order to harm the enemy as soon as possible, to force him to develop, to slow him up, and (b) wait until the enemy has come close up to strike him devastatingly at close range.

Beyond these there are also many intermediate and partial solutions according to enemy strength, intentions, terrain, and supply of ammunition on both sides.

The first element in importance in every tactics is the man—his morale. Next comes the material element—the weapons: guns and machine guns. The latter element concerns us here, and it translates itself into ammunition. Its supply must be adequate for every purpose, its use must be economical. With modern weapons it is of no value to calculate expenditures, days of fire, etc. Machine guns can fire in minutes what it takes days to bring up. In future this problem must be resolved by alternating periods of maximum with those of minimum expenditure. The former will be those of the maximum efforts of all arms and by surprise; the latter those of preparation, reconnaissance, troop and munition conservation.

Long drawn out combat means casualties, and excessive munition expenditure. It changes readily into a stabilized condition. It brings about little of value. Similarly, long-drawn out preparations mean loss of the element of secrecy, as well as giving time for enemy countermeasures. Therefore: surprise, concentration, reasonable speed, bold action during the period of uncertainty.

War is the domain of uncertainty, friction, opportunist expedients, and common sense. Therefore the chief goal of all military training is to make sound understanding powerful. We find that war itself does this, but does peace time training do it effectively?

(32) DIE PANZERWAFFE IN FERNOST. [The armored weapons in the Far East.]

An account of the types and service of Japanese and Chinese tanks and armored cars on the Woosung Front and in Manchuria, with seven pictures and an orientation map.

(33) DIVISIONSARTILLERIE VON MORGEN. [Divisional artillery of tomorrow.] (See abstract page 88)

(34) KURZFRISTIGE KAVALLERIEAUSBILDUNG. [Short cavalry training.]

(35) ENGLISCHE MANÖVERBETRACHTUNGEN. [English maneuvers.]

In an exercise of the Guards two battalions with five batteries succeeded in repelling an attack of four battalions and fifteen batteries. Here we see fundamental weakness of attack power. The Infantry can not advance until the wire is broken through and the enemy machine guns are suppressed and it can advance only as far as the enemy artillery is destroyed. The exercise showed that the English division does not have its arms organized properly for attack.

Another exercise was to show how the artillery could support infantry attacking in woods against an intrenched wired enemy. The difficulties proved insurmountable. Neither air nor ground reconnaissance could locate the position. The attack was held to have failed.

The article continues with an account of territorial maneuvers and Italian Naval Maneuvers.

(36) FÜR UND WIDER DEN WEHRSPORT. [For and against military sports.]

(37) TAKTISCHE AUFGABEN ZUM WINTER 1932/33. [Tactical exercises, winter 1932-33.] Introduction. The nature of each problem will henceforth not be announced until its solution is given.

11 October 1932

(38) DAS PROBLEM DER INFANTERIEGESCHÜTZE. [The problem of the infantry accompanying gun.]

The author sketches the history of its development during and since the World War and calls the present a period of inactivity in this line.

He notes the adoption by France, Poland, Denmark, Holland, and Finland (and the present experimental trials thereof by Greece, Jugoslavia, Norway, and Switzerland) of the Stokes-Brandt trench mortar. He calls it a suitable accompanying gun. It has achieved accuracy and an increased effective range. The dispersal in depth in the beaten zone is no greater than

that of other small infantry howitzers. The dispersal in width is, however, considerably greater than that of the breech loaders. The range of 3,000 m. is thus attained with a light weapon (57 kg) which is very effective due to its explosive charge.

In Spain the Valero mortar is less effective. Their Ecia mortar is more promising, having 1½ times greater dispersal in depth and width than the Stokes-Brandt.

The United States has developed a departure: the 75 mm infantry gun M 1, used with wheels to go into position. The Americans are content with a range of 165 m. The weight of this weapon is three times that of the Stokes. The weight of projectile is 5.45 kg as against 3.3 kg for the Stokes.

In England the question is coupled with that of motor transport. The Stokes and the 3.7″ howitzer are placed on caterpillar treads. They seem to cling to the idea of the true trench mortar.

The introduction of the Stokes-Brandt mortar has resulted in the necessity of a special antitank gun. Its type depends on whether it is to be antiaircraft as well. If not, it may take the form of a tank antitank. The tendency toward this latter is found in France although the question of an antitank weapon as such (such as the 37 mm) exists there as well. They intend to increase its caliber to 45 mm in contrast to the United States where model M-2 increases powers without increasing caliber from 37 mm. In Italy the 65 mm, 17 gun has been adopted as an infantry weapon.

It all depends what missions are to be given the antitank guns. Now that the mobile tank—such as Carden-Lloyd—is with us, a light antitank gun of limited powers becomes important. The 20 mm machine gun is again coming into evidence, the more because it can be used as antiaircraft as well. These weapons have increased in weight due to the necessity of better carriages. That of the Solothurn S 5-100 gives that gun a weight of 200 kg. For the Oerlikon a new carriage is under construction. It is the same with the 25.4 mm Vickers Mark A and the Scotti 20 mm. Hotchkiss proposes a carriage for the 13.2 mm only, larger calibers to be built into tanks.

Holland is interested in a 20 mm machine gun. Their A-I Boxman was not suitable particularly because it could not serve for antiaircraft as well.

Most of the armies which have mortars are looking for antitank guns usable against heavy tanks but not for antiaircraft. Thus there can come about counterbattery against distant machine gun nests. For this a caliber of 47 mm is suited. In Poland a 47 mm (Pocisk) gun M 25 was built which made increased range possible. The problem of the accompanying gun is not yet solved. The Spanish 40 mm Arellano gun seems more promising. In Switzerland experiments are going forward with a 47 mm gun. It seems to be the best of any of its kind.

The 47 mm Vickers Q.F.S.A. has shown much promise. It is being rebuilt. The Skoda works too are engaged in the construction of a 47 mm infantry gun.

The article continues with a consideration of the interchangeable 2-barrel type. The author believes that the experimental period for infantry weapons has not yet come to an end.

(39) UNSERE EINZIGE "SCHULD." [Our only guilt.] Generalleutnant Marx

(40) DIE BOMBENFLIEGER UND DIE LUFTDIVISION FRANKREICHS IM WELTKRIEGE. [Aerial bombers and the French air division in the World War.]

A summary of an article from Vojenske Rozhledy entitled "Survey of the evolution and activities of the French aerial bombers in the World War," which includes also an account of the creation and employment of the French air division.

France has today 3 air divisions, 2 independent air brigades, and 1 independent air regiment.

(41) FEUERUNTERSTÜTZUNG UND FEUERKAMPF DER EINHEITSGRUPPEN. [Fire support and fire fight of the composite group.]

Another article on this unit of the German army, reviewing the previous literature on the subject.

(42) TAKTISCHE AUFGABE 1. [Tactical exercise No. 1.] Part I.

31—MILITARY ENGINEER

November-December 1932

(1) PURIFICATION OF WATER IN THE FIELD. Major Hume
(2) MODIFIED MILITARY FOOT BRIDGES. Major Heileman
(3) NATIONAL DEFENSE. Major General Fries

January-February 1933

(4) WHERE ARE WE IN INDUSTRIAL PREPAREDNESS? Hon. F.H. Payne, The Assistant Secretary of War
(5) FOREIGN FORCES IN TIENTSIN. Captain Colby
(6) THE DEADLOCK IN EUROPE. Major Reynolds
(7) NAVAL STORES, 1610-1932. H.M. Payne, Consulting Engineer
(8) THE ST. LAWRENCE WATERWAY. Brigadier General Pillsbury
(9) PAYMENTS AND DEFAULTS. (Editorial)
(10) A REVIEW OF JOFFRE'S MEMOIRS. Lieut.-Colonel Hall
(11) FRENCH ARMY STEEL PONTON EQUIPAGE. Captain Helwig
(12) TRAINING GUIDES FOR THE ENGINEER COMPANY. Captain Troland
(13) SMALL ARMS PROCUREMENT IN THE CIVIL WAR. Lieutenant Miller
(14) EXPERIMENTS IN CAMOUFLAGE. Captain Crane
(15) MILITARY GEOLOGY IN TIME OF WAR. Lieutenant Cron, Jr.
(16) PORT EVERGLADES. Lieut.-Colonel Lawrence
(17) THE 37TH ENGINEERS IN FRANCE. Colonel Peirce

32—MILITARY SURGEON

November 1932

(1) THE INFERIORITY COMPLEX IN THE MILITARY SERVICE. Major Duckwall
(2) THE MEDICAL DIVISION, ARMY AIR CORPS. Lieut.-Colonel Jones
(3) SKETCHES OF THE MEDICAL SERVICE IN THE WAR OF 1812. Lieut.-Colonel Duncan

January 1933

(4) TRAINING OF MEDICAL UNITS IN GAS WARFARE. Lieut.-Colonel McKinney
(5) THE NEW ARMY RATION
(6) CHEMICAL WARFARE SERVICE. Major General Gilchrist

33—NAVAL INSTITUTE PROCEEDINGS

October 1932

(1) THE MONROE DOCTRINE: ITS APPLICATION OF TODAY. Brigadier General Richards
(2) SHIPS VERSUS FORTS — DARDANELLES, MARCH, 1915. Lieutenant Mercer (Royal Navy, Ret.)
(3) THE TANGANYIKA EXPEDITION. De Weerd

November 1932

(4) PULESTON, CHURCHILL, AND THE DARDANELLES. De Weerd
(5) SCAPA FLOW. von Berchem
(6) THE ECONOMY OF NAVAL ARMAMENT. Commander Brandt

40—QUARTERMASTER REVIEW

November-December 1932

(1) LUMBER. (Prepared in the Office of the Quartermaster General)
(2) THE PROBLEM OF MOTOR TRANSPORT. Lieut.-Colonel Taylor
(3) ON GERONIMO'S TRAIL. Lieutenant Shockley
(4) SERVING IN ALASKA. Lieutenant Hunsicker
(5) PROCUREMENT PLANNING. Lieutenant Jones
(6) QUARTERMASTER CORPS SCHOOL HAS LARGE CLASS

45—REVISTA DE ESTUDIOS MILITARES (Spain)

BY CAPTAIN W.F. SAFFORD

August 1932

(1) TÉCNICA DE MARCHAS.—MOVIMIENTO DE UNA DIVISIÓN DETRÁS DE UN FRENTE DE CONTACTO. [Technique of marches. Movement of a division in rear of a front of contact.] Commandante Quintana

The method of study and solution of a logistic problem, with reference to the present Spanish division. Illustrative problem of a division moving behind the Pyrenean frontier with analyses of the problems presented. Includes four tables and three sketches showing organization, road spaces, march graph and march tables.

(2) EL REGLAMENTO DE FORTIFICACIÓN DE CAMPANA DEL EJÉRCITO ALEMÁN. [Field fortification regulations of the German Army.] Teniente Coronel Beigbeder

The employment of field fortifications considered under the following subdivisions: (1) Introduction; (2) General principles; (3) Field fortification in the offensive: (a) The attack in war of movement, (b) The attack of positions (stabilized situations), (c) The attack of permanent fortifications; (4) Field

fortifications in the defensive: (a) General principles, (b) The defensive in the war of movement, (c) The defensive in the war of positions, (d) The defense of permanent fortifications; (5) Field fortification in mountain warfare: (a) War of movement, (b) Stabilized warfare, (c) Permanent fortifications.

The extract presents nothing not taught in our own (U.S.) service schools but demonstrates similarity of thought.

(3) APOSTILLAS AL REGLAMENTO.—LAS MARCHAS EN DIRECCIÓN AL ENEMIGO. [Notes on the regulations "Marches in the direction of the enemy."] By A.C.

The marches are "prior to contact" and classified: (a) when the adversary is several days distant, (b) in proximity of the enemy when the columns may come under heavy, long-range, artillery fire, (c) marches in contact, under fire of artillery of all calibers.

These marginal notes, amplifying the regulations, cover points taught, at present, in all countries generally and in the U.S. service schools.

(4) TEMAS TACTICOS.—CON LA 48.A PROMOCIÓN DE LA ESCUELA DE GUERRA DE PARIS. [Tactical themes. Theme No. 1.] Data on the march and staging of an infantry division, taken from a memorandum of the Ecole Superieure de Guerre, Paris, consisting of tables of organization, rates and lengths of marches, road spaces, time length of units, and other notes necessary for properly solving problems to be printed in later issues.

September 1932

(5) ELEMENTOS ACTIVOS DE LA DEFENSA TERRESTRE CONTRA AERONAVES. [Active elements of terrestrial defense against aircraft.] Commandante Campos

The most important characteristics of the active elements of antiaircraft defense, viz., nets of observation posts (sight) and sound locators, searchlights, antiaircraft artillery, machine guns and automatic cannon. Nothing new presented; tactical employment not considered.

(6) GUERRA PSICOLÓGICA. [Physchological war.] Teniente Albors

Speculations on warfare of the future, in general, fail to consider the human element—means, methods, matériel, and machines are predicted at great length, but few writers, if any, mention the men that will participate or the psychological effect of new inventions upon those men.

As for other phases of warfare, speculation must be based on a study of the past. In the World War propaganda played a large part. How much more will it play in the future? How will it affect morale? In the World War we have the examples of Caporetto, the French mutinies, the defection of Russia, the entrance of the United States into the War, the collapse of Austria-Hungary, and the revolution in Germany, all largely influenced by propaganda, if not entirely attributable thereto.

Peculiarly, the rear elements are always the first and most seriously affected. The further from the front the greater the fear. "Intimacy breeds contempt" is true with troops—the habit of facing danger daily in the front lines hardens those men who do so. The rear echelons are less disciplined, less in contact with their officers, often have inferior officers and noncommissioned officers, are less trained, are more in contact with the civil population and are more susceptible to propaganda.

Material means have a great influence on morale. Not only material comfort but the resources for fighting and the confidence the troops have in the arms they use are important factors. If the soldier feels that he is fighting on at least equal terms with his adversary his morale is increased. On the other hand, the first appearance of new inventions is always a shock to morale, as the first gas attack and the first use of tanks, even though the user of the invention may be unable to derive the proper fruits of his success. The soldier of the future war will be accustomed to both tanks and gas, but what new inventions will he encounter?

A very interesting article and one that brings out a phase of warfare often overlooked in peace time. Napoleon said that the psychological factor always decides great events, separating by a single step, victory from defeat. Grant said that

the moral is to the physical as three is to one.

(7) APOSTILLAS AL REGLAMENTO.—LOS PRELIMINARES DEL COMBATE. [Notes on the regulations. The preliminaries of combat.] By A.C.

From "Regulations for the tactical employment of large units." This article covers meeting engagements and the author refers to the teachings in Italy and in Germany in amplifying the regulations (Spanish) on which he comments. Nothing new is presented nor is there anything materially different from what is taught in the U.S. service schools.

(8) LAS PRÁCTICAS DE LAS ACADEMIAS MILITARES. [Practical exercises of the military academies.] Chronicle of exercises lasting thirty days—the first half devoted to individual work by the students in their respective branches and the second period to work with all arms and services.

October 1932

(9) LA JUSTICIA MILITAR. [Military justice.] Commandante Hijar

Jurisdiction of military courts over persons subject to military control and the Spanish system of military justice.

(10) EL ERROR DE LOS ARMAMENTOS MODERNOS. [The error of modern armaments.] Commandante Manzaneque

Napoleon reduced the number of duels among his officers by prescribing that the arms used be more deadly. So too, the number of wars may be reduced by more deadly instruments. The disarmament conferences may well come to agreements to limit sizes of armies for economic reasons but should not meddle with types of arms. The emasculation of weapons only prolongs wars and involves greater numbers of people.

The World War exaggerated the use of artillery beyond all reason. The true lessons of the war are in the value of automatic weapons and aviation. Armed with modern weapons and employing fire power, the cavalry is the maneuvering arm par excellence. The efficiency of the machine gun and its use in quantities will greatly increase the front held by units.

Elasticity in both attack and defense is desirable. The use of great numbers of machine guns, particularly when it is the cavalry that employs them, will give this elasticity. For the defense, machine guns will force the attacker to a greater use of artillery and hence make the war more costly to him. A nation whose policy is defensive does not need a large amount of artillery.

In war it is, after all, the man who counts. Aviation can replace artillery for many missions. Aviation has to some extent replaced the distant reconnaissance by cavalry. But aviation can never replace infantry. Because of the certainty of increased aerial activity, all guns should be capable of antiaircraft as well as terrestrial fire.

The error, then, lies in development of armament based on incorrect appreciation of the necessities of the next war.

(11) INSTRUCCIÓN PRÁCTICA SOBRE LA DEFENSA PASIVA CONTRA LOS ATAQUES AÉREOS. [Practical instruction in passive defense against aerial attacks.] Capitán Navacerrada

Each region, each city, each group of dwellings requires different means of defense depending upon the topography, construction, distance from the enemy, etc. The regulations for passive defense are neither secret nor confidential but should be made known to the greatest number possible of inhabitants.

Establishments fall into two groups: those that require special protection and those that do not. Passive defense is essentially local but coordination is indispensable. This coordination is provided by the government board, the state board, and the local board, each of which studies the district as the echelon represented would be affected.

The passive measures, such as sentinels to watch for the approach of hostile aircraft (including sound locators), the warning, extinction of lights, and hiding of the population are well known. To these must be added: detection of toxic gases, bomb and gas-proof shelters, first-aid stations, special provisions against fire, disinfection of gassed areas, etc. Above all the people must be educated in these measures. To this end a very good specimen of a proclamation (or decree) is included in the article.

(12) LA PSICOPATOLOGIA EN LA HISTORIA DE LA INDEPENDENCIA DE VENEZUELA. [Psychopathology in the history of the Independence of Venezuela.] Uzcátegui

While there are many lyrical accounts of the battles, there is no military history written by a technical man nor is there a pyschological history of the war. The last would be as interesting as the military history. It would reveal, as indicated in the accounts of contemporary writers, that morale played the predominating part. For many reasons that of the Spanish troops was very low.

(13) ESPANA.—ESCUELA SUPERIOR DE GUERRA. [Spain.—Escuela Superior de Guerra.] A general description of the subjects being taught and the manner of teaching them.

46—REVISTA MILITAR (Argentina)

BY CAPTAIN W.F. SAFFORD

July 1932

(1) ETICA MILITAR Y CUMPLIMIENTO DEL DEBER (CONFERENCIA). [Military ethics and performance of duty.] Gral. de Div. Vacarezza J.E.

A lecture delivered by the abovenamed officer at the "Circulo Militar" on the ever-present and constantly renewed theme of loyalty to country and to the established government—inspired by the events of September, 1930.

(2) LAS PROPOSICIONES DE LOS OFICIALES JEFES DEL SERVICIO DE COMUNICACIONES Y JEFE DE SECCIÓN COMUNICACIONES. [Plans of the Chief of Communications Service and Communications Chief of Section.] Tenl. Gonzalez J.P.

Notes amplifying regulations on communications and stressing points commonly overlooked. For example, the plan of communications must be based on the tactical plan. Troop commanders are insufficiently instructed in signal communications and do not understand powers and limitations of technical service. All points covered are taught in our own (U.S.) service schools.

(3) DIFERENCIAS PRINCIPALES ENTRE LA TÁCTICA DE CABALLERIA E INFANTERIA. [The principal differences between cavalry and infantry tactics.] Gral. de Div. Brandt, German Army

As a general rule, infantry attacks echeloned in depth, nourishes its combat from the rear and is supported by a strong artillery. The predominant characteristic of cavalry is its mobility and with the help of this it tries to produce surprise. Its actions must be rapid and cavalry must reach its objective before the enemy can adopt countermeasures. Thus cavalry employs from the beginning effective forces and renounces great echelonment in depth. Its artillery, as a unit, concentrates its fire on the decisive place. On secondary fronts cavalry limits itself to containing or observing the enemy, renouncing all artillery support.

Such methods are not as dangerous as they would be for infantry, since cavalry can disengage itself from the enemy more readily if the combat turns unfavorably. Once infantry accepts combat it is obliged to terminate it. Lacking mobility, the breaking off of an engagement and placing distance between itself and its adversary is more difficult. An aggressive enemy can follow up and maintain contact.

The tendency to rapid action should not lead to a precipitate attack. Any poorly prepared attack carries in itself the germ of failure. Proper reconnaissance should give the commander information on which to base his decisions for the employment of the major units, the direction, places, etc.; and allows him, during the advance, to subdivide his forces conformably with his plans. To gain surprise cavalry may attack directly from route column—the rear units being able to move by increased gaits can arrive at their places at proper time —which foot troops cannot imitate. Lastly, orders must be brief and fragmentary. Every minute lost jeopardizes surprise.

The artillery must be as mobile as the cavalry. In the advance it must be placed farther forward in column than with infantry.

Infantry in trucks does not lend itself as much to a surprise attack as cavalry—it takes too long between starting to detruck and the initiation of the attack.

Dismounted, the individual trooper fights like an infantryman. The substantial difference between cavalry

and infantry combat resides in the distribution in depth and the degree to which mobility is used.

An infantry envelopment must be close in or it must be begun early. Cavalry habitually seeks the envelopment, whatever may be its direction of advance. The amplitude of maneuver is greater than for infantry.

In delaying action there are many points of difference. The cavalry's capacity to interrupt the fight and withdraw to another position plays a great part. In delaying action cavalry must often act offensively and oblige the enemy to deploy his principal forces. Against superior numbers it can then turn to the defensive or to delaying action. It may also operate offensively against the hostile flank.

When an infantry attack is launched it must be carried on to a decision. Cavalry may frequently know, before the attack, that it will be broken off after a certain time. Such an attack is necessarily different from one that is to be pushed to a decision.

In delaying action, infantry must depend on long-range fire and on confronting the enemy, while cavalry can combine its opposition to the heads of columns with attacks against the flanks. It can act more audaciously due to its mobility. Its mobility allows for delay on broader fronts. At times flank attacks will cause the enemy to change direction.

The cavalry soldier enters the fight fresher than the doughboy. Even if the latter is transported in trucks he must march across country.

The increase in automatic weapons, artillery, and other arms, must not impair the mobility of cavalry. Cavalry should always attempt to derive the maximum profit from its mobility in all tactical situations. It should be able to make long marches without losing its combative power.

(4) DESDE MI PUESTO DE OBSERVACIÓN EN PARIS: LA GUERRA QUIMICA. [From my observation post in Paris: Chemical warfare.] (XII) Mayor Fantini Pertiné

Apparently all European nations are convinced that gases and germs will be employed in the next war regardless of any and all treaties. All nations are therefore studying the subject very thoroughly. The author continues with a very complete discussion of the tactics of chemical warfare. Nothing is presented, however, at variance with or additional to the instructions in our service schools, although the article covers European views on the subject.

(5) ENTRADA EN POSICIÓN DE LA ARTILLERIA DURANTE LA NOCHE. [The entrance into position of artillery during the night.] Teniente-general Goldner

Surprise is of such vital importance and aerial reconnaissance has rendered it so much more difficult to obtain, that night operations will be much more general in the future.

When artillery must not only go into position but also make all preparations under cover of darkness in order to open fire at daylight a difficult problem is presented. This is especially true if the deployment is made on unknown terrain and it has not been possible to make a daylight reconnaissance, and when the proximity of the enemy requires that noises and lights be prevented to assure secrecy.

If no daylight reconnaissance can be made, positions must be protected by the infantry and fire opened by the map and so continued until sufficient data is obtained. Maps, therefore, must be accurate and available. Artillery details must be efficient.

The chief of artillery must endeavor at all times to secure reconnaissance during daylight before occupation of positions. Such reconnaissance should be by air and ground. Aerial photos are valuable adjuncts. Patrols sent forward must select positions; particularly for flat-trajectory matériel.

The movement must be based largely on a methodical study of the map.

All units must reduce noise to the minimum. Motorized artillery may be screened by the fire of other artillery already in action.

Firing charts must be made, as maps will not usually be found accurate or detailed enough. All data possible, secured by daylight, must be placed on these charts.

Reconnaissance for positions and location of same require special

precautionary measures. If by day, patrols should be limited as to size and number. The degree of darkness of the night is naturally of importance. If at all possible, guides should be provided. During the march and occupation of positions care must be taken to avoid aerial observation. Crests where artillery would be silhouetted against the sky must be avoided. Shaded lanterns may be used as route markers or for figuring minimum range to clear a mask. At least a part of the limbers must be kept near the batteries until daylight for necessary movements of pieces.

The determination of points will necessarily be the most difficult task in the dark.

Wire communications as well as radio stations must be completely installed—but radio should be kept silent until daylight.

The order of priority of work will be fixed with regard to the situation, both tactical and technical.

Only a well-trained artillery with modern armament can respond to the exigencies of a nocturnal occupation of a position.

(6) RECONOCIMIENTO Y FIJACIÓN DE LAS POSICIONES DE ARTILLERIA DURANTE LA NOCHE. [Reconnaissance and location of artillery positions by night.] By "A.R." (A German artillery officer)

An article supplementing the foregoing. This is much more detailed and although interesting it is not of sufficient general importance for officers of other branches nor does it present anything materially differing from our own practices to warrant detailed treatment.

(7) LO QUE EL OFICIAL DE INFANTERIA DEBE CONOCER DE ARTILLERIA. [What an infantry officer should know about artillery.] Tte. le Cuaranta J.C.

A very interesting article treating the case in detail. Our service schools, both branch and C. & G.S.S., cover this subject adequately. We have, moreover, numerous War Department and school publications that effectively give this information and instruction.

(8) EL SERVICIO SANITARIO EN EL EJÉRCITO ALEMÁN (XIII CUERPO DE EJÉRCITO) DURANTE LA GUERRA 1914-1918. [The Medical Service in the German Army (XIII Corps) during the World War, 1914-1918. (IV.—Mountain warfare—stages and zones of the interior).] Ciruj. Barbieri P.

The experiences of the XIII Corps on the Roumanian and Italian fronts were quite different from those of the troops in France where evacuation was a more simple matter.

In the mountains the first stage of evacuation was frequently a 12-hour trip for the litters. The terrain required at least four and usually six litter-bearers per litter. The litters (Austrian) were made especially light. Bivouac stations along the routes were established.

Indispensable medical supplies were brought upon pack trains. Hospital stations were located well forward and all possible aid—even to major operations, often without anaesthetics—was given as far forward as possible.

The difficulties of supply and evacuation were such that the wounded suffered horribly. The suffering was increased by the cold and the fogs, which also produced casualties.

Prisoners of war were employed to a great extent as litter-bearers. As far as possible the wounded were treated where they lay and collected afterwards. Lightly wounded were grouped with the more seriously wounded in order to assist them.

One factor, however, allowed the medicos to work more at ease and more conscientiously—there were fewer wounded, by reason of the broken terrain, and more natural cover available.

Experience shows that: (1) Sanitary forces should be decentralized, (2) means of evacuation (including litter-bearers) must be reinforced, (3) sanitary formations should be advanced as far forward as possible, (4) medical units should be established in the most stable manner possible, (5) means of transportation must be adapted to mountain travel, (6) methods of hygiene call for the greatest care, (7) greater quantities of materials, (8) special material as used by mountain rescue parties.

To round out and complete the series of articles, the operations of the advanced section and of the zone of the interior are described in

some detail. These were, naturally, on a more permanent basis and had available certain civilian institutions but the demands of war called for a considerable expansion and elaboration. As an historical example it gives some idea of the vast task of the medical service in time of war.

(9) EL CANÓN AMETRALLADOR DE 2 CM. S. 5.00. [The 2 cm. machine gun, S 5.00.] Com. Danicker

A detailed description of the characteristics and functioning of the 2 cm. machine gun manufactured at Solothurn. This new weapon is interesting in that it may be used either as an antitank weapon or for antiaircraft fire. Three photographs of the weapon are included.

August 1932

(10) ATAQUE A LAS FORTALEZAS DE OSOWIEC. [The attack on the fortifications of Osowiec.] General Goldner

The article treats of the first bombardment of the fortress by the National Guard Division of von der Goltz, in September 1914, and is supplemented by a chart, showing the order of battle, and by three maps. While the bombardment did not result in the taking of the fort, it is undeniable that this operation, together with those of the Eighth Army, produced the impression among the enemy that the German offensive against Russia was being continued in an energetic manner, and concealed for quite a time the fact that considerable German forces had been withdrawn by General von Hindenburg in order to support the Austrian Army.

(11) DESDE MI PUESTO DE OBSERVACIÓN EN PARIS: LA GUERRA QUÍMICA. [From my observation post in Paris: Chemical warfare.] (XIII) Mayor Fantini Pertiné

The author has, in previous articles, described the recent developments and present European doctrines in Chemical Warfare. As previously noted by the reviewer, these teachings do not materially differ from our own (U.S.), except that all European nations are much more concerned over the danger to civilians and the problem of their protection. In this article the author begins a series to show the needs of his own country based upon such developments and doctrines. While interesting and instructive the Argentinian problems are quite different from those of the United States, and apparently little has been done about them there.

(12) MADERAS ARGENTINAS Y LAS NECESIDADES MILITARES. [Argentine woods and military needs.] Tte. 1º Ing. Mil. Levene C.A.

Introducing the subject by establishing the importance of woods as an industrial element and citing some of its military applications, the author passes through a general report on the present state of exploitation of wood in the Argentine, measures to be adopted to augment the production, the problem of wood from a military standpoint, and draws the conclusion that the country should investigate its own natural resources as to kinds, quantities, locations, adaptability, etc., and use more of its own instead of importing so much.

(13) LA FORTIFICACIÓN Y LA PROPUESTA ITALIANA EN LA CONFERENCIA DEL DESARME DE GINEBRA. [Fortifications and the Italian proposal at the Geneva Disarmament Conference.] Capitán des Croix

Fortifications are as old as mankind. No one can assure the abolition of war. It will continue as long as life palpitates. A reduction of armament is not the panacea. Neither is heavy armament. A middle course is the best. The Italian proposal is therefore sound; a reduction of offensive weapons that might be used to wage war against neighboring countries and in exchange a strengthening of frontier defenses by permanent fortifications to prevent violation of the territory. But fortifications, although of a purely defensive character, have and will always have an offensive character because experience has shown that it is more advantageous to carry the war into enemy territory than to suffer it on one's own, and forts provide excellent bases. Let us beware then, of this red herring.

For the states already protected by fortified frontiers the proposal is very acceptable. The true reason for disarmament talk is the expense of modern armies.

(14) OPERACIONES EN PAÍSES DE MONTANA. [Operations in mountainous countries. (Rules for the employment of large units.) (I) Capitán Teisaire R.

Because of the great differences of level between points relatively close, the scarcity of communications and of resources, and the inaccessibility of large zones, mountainous regions present serious obstacles to the development of military operations.

General Observations

The difficulties, proper to terrain and climate, for living, marching and fighting in mountainous regions, increase rapidly with the effectives. To these difficulties are added artificial obstacles in frontier zones, consisting of permanent or field fortifications and of interruptions of the roads. Local resources cannot be counted upon; they do not exist or have been evacuated before the operations were initiated.

Due to the small logistic capacity of mountains, the various services will function with difficulty; their demands will be numerous. The conduct of large units (divisions and corps) presents great difficulties. Whether or not the existing communications, good or bad, are used the principal operations will be concentrated in the valleys, where the difficulties are less.

The great masses of modern armies will utilize all routes of invasion across a mountainous frontier. Although a mountainous frontier zone does not ordinarily constitute a decisive theater, its possession will exercise a preponderant influence on the operations. The invasion of such a zone habitually passes through three phases: (1) The capture of the passes. These passes are limited in number; their defense is facilitated by the terrain. An intrepid and skilful adversary, dissimulating his main effort by demonstrations and directing the mass of his forces against one or two passes will almost always be successful. Having taken one point, the whole front will fall. (2) The passage of the mountainous zone. In the same way, in the interior of the zone, a passive defense will be inevitably enveloped and its communications threatened. Because of the terrain, the defense can never expect to receive help in time to oppose the hostile threats. For this reason, in the mountains, more than on the plains, far from maintaining a defensive attitude, even active, the initiative in the operations should be secured at the beginning—and once lost every effort should be made to regain it. The occupation and permanent defensive organization or road nets favors this conception; those situated in the valleys permit displacement of troops in diverse directions. But those situated on the crests are important for freedom of maneuver and the action from dominant terrain stamps the operations as a real and efficacious offensive. (3) The debouchment from the passes. Which requires a bridgehead to be secured for protection of the operation.

Employment of Troops

The characteristics of this are: (a) Great extension of fronts due to scarcity of communications; (b) The difficulties, sometimes considerable, of assuring communications between columns; (c) Lengthening of columns on steep slopes; (d) Strong positions against frontal attacks, time and labor demanded by attacks against the flanks or rear; (e) Slowness of troop movements and of transmission of orders; (f) The influence of meteorological variations; (g) Impracticability of certain terrain which forces a separation of forces or breaking it into small units; (h) The difficulty of operation of the supply and evacuation services.

These difficulties and the vast number of unforeseen events that may occur counsel avoidance of complicated operations. More even than on flat terrain this type of warfare should be based on simplicity and elasticity.

Particularly the security of the lines of retreat should be guarded, because of the reduced number of routes and the facility with which these may be interrupted. Even a momentary loss of lines of communications may have grave or even decisive consequences. The essential conditions for success are: (1) To know clearly the general objective pursued; (2) To indicate to each unit its particular objective; (3) To fix the route of each column and the hour it should reach a determined point; (4) To simplify to the extreme the dispositions assur-

ing communication between columns. These conditions demand a profound knowledge of the region. If this knowledge is lacking, preliminary reconnaissance must be more intensive and native guides used.

The moral and material condition of the troops must be considered more carefully than in lower altitudes because they are more exposed to the debilitating effects of fatigue and privation, before going into action.

The difficulty of movement, delays in arrival of counter-orders, frequent equivocations, oblige a resolute persecution of the original plan, even when, during the execution, it is known that a modification would give better results. Night operations under cover of darkness will be frequent. Fog, a frequent phenomenon in mountains, should be utilized. Considering its instability, provision must be made for its abrupt disappearance, adopting proper measures so that no unit is caught in a critical situation.

Subordinate commanders must have the right spirit of initiative and sentiment of cooperation developed to a high degree. They are often abandoned to their own resources and confronted with new and unforeseen situations. In such cases, to insure efficacy of action, the commander must limit himself to indicating the general objective, leaving each subordinate free to choose the methods of execution.

Method of Fighting of the Different Arms

The infantry, by its faculty of adaptation to all terrains, suffers least the influence of difficulties inherent to mountain warfare. The disposition of troops suffers modifications conformable to the particular nature of the ground; depending upon the ability of the commander to take the most possible advantage of it. In mountains, infantry will meet conditions favorable for bringing hostile artillery under fire. A few well-posted and concealed riflemen are sufficient to seriously molest the action of the artillery.

The duration of combat and difficulties of supply impose a great slowness in rate of fire. Because of differences in level, fire at long distances is rare, although executed when the objective is at great depth.

Field artillery will encounter considerable obstacles due to the terrain. The defender will usually be better situated in this respect than the attacker, time having allowed him to pass over obstacles and to organize his position. Although good positions are scarcer some can always be found that will permit the artillery to play an important and decisive role.

The possession of terrain affording observation and a field of fire helps to discover the hostile artillery; it also permits of counterattacks and efficient operation, even from afar, on the principal hostile position.

Dominant positions are necessarily reserved to mountain artillery. Heavy artillery may be located in the vicinity of roads in the valleys. Howitzers are particularly valuable. The movements of artillery being slow and difficult, reconnaissance and selection of positions should be taken into account at an early hour to allow the batteries to occupy their positions in good time.

Decentralization of artillery is frequently demanded by the available positions. This permits of better fire support. Liaison must be efficient and must be established laterally with other units and in depth with the artillery commander. All means of communication are used. Initiative of subordinates in carrying on action in absence of orders or when communication is faulty is of paramount importance.

The artillery commander should not neglect to report information obtained by his observers to the commander of the unit he is supporting.

The artillery must always be protected by infantry. The echelons of ammunition supply must also be protected. In difficult country where a command is divided into fractions for combat the liaison between artillery and infantry must be assured. Differences of level will frequently permit artillery support until the decisive moment.

Combat in mountains will last a long time. Hence the necessity for a judicious expenditure of ammuni-

tion so that each phase may be properly supported.

In mountainous terrain there will always be time to adopt proper dispositions to concentrate artillery fire on the decisive objective of the attack. Except in rare cases, the terrain will not permit of forward displacement of the field artillery to accompany the infantry. It is equally difficult, in case of success, to occupy captured positions in time to permit the field artillery to participate in the pursuit. This must be undertaken by mountain artillery.

In retirements, infantry is supported directly by the mountain artillery. Field artillery must, at times, however, fight, if necessary, even if totally sacrificed. If possible, all, or a part of the heavy artillery, should be sent to rearward positions to cover retirement to them. Since roads in the valleys will usually be the only good lines of retreat, the artillery must move with speed and leave them free for the passage of the infantry.

Cavalry has no other means of action than that of fighting on foot. To it may be entrusted the rapid occupation of the vicinity of wagon roads. Small fractions, habituated to the mountain, may be utilized in services of exploration. On trails cavalry may perform the duties of couriers and liaison agents.

(15) PARA OFICIALES DE ARMAS MONTADAS. [For officers of mounted services.] (A problem of equitation.) Capitán Gomez J.F.

The author raises a question that dates back to the first time the first man ever bestrode a horse: whether to lean forward or backward in descending slopes. He illustrates by diagrams and talks of "center of gravity" to prove the latter method. He has completely overlooked the most important part of the whole problem—the use, by the horse, of back and loin muscles and of his hind legs. The same diagrams may therefore be taken and the opposite method proven to be correct.

(16) DESDE LA ARTILLERIA TRANSPORTADA HASTA LA ARTILLERIA ARRASTRADA POR TRACTORES APTOS PARA TODOS LOS TERRENOS. [From portée artillery to artillery drawn by tractors apt for all terrains.] Capitán Belleville H.

The imperious necessity of providing an artillery that could be quickly placed at any point of the front gave birth to portée artillery. During the World War the number of units of this type increased greatly. It has been much discussed and while its strategic mobility is conceded, its tactical mobility is denied.

Tractor-drawn artillery, able to move over all kinds of terrain, was primarily designed not only to discharge all functions of light field artillery but also to replace portée and at the same time to economize on men and animals.

In any country where agricultural tractors are made and used extensively there is a large potential reservoir of transportation. Caterpillar treads, although slower, are still superior to wheeled tractors.

The article is translated from "Revue d'Artillerie" (French), of April 1932, and contains accounts of tests conducted in France. Nothing is presented that is not already well known in the United States.

(17) INSTITUTO DE HIGIENE DEL EJÉRCITO. [The institute of hygiene of the Army.] ("The hygienic service during the World War, 1914-1918.") Translated and extracted from German sources by Ciruj. S/R. Barbieri P.

A very interesting article on hygiene of troops and importance of hygiene on health in preventing epidemics and reducing number of cases of preventable diseases. Particular headings: War of movement, stabilized warfare, water supply, delousing, baths, washing of clothes, and trench hygiene, treat of the peculiar problems of each. A good many of these subjects are covered in our courses in Military Hygiene but cannot be too strongly impressed upon officers on duty with troops.

(18) UNA NUEVA DOCTRINA DE GUERRA. [A new doctrine of war.] (The work of General Douhet.) General Tulasne

The essential idea, as conceived by this Italian (Douhet), is the necessity of creating an independent aerial army—an idea quite opposed to the existence of aviation as an auxiliary arm working for the benefit of the army and navy. In fact, says Douhet, auxiliary aviation cannot operate effectively in the face of hostile aviation that has gained

air supremacy. To gain domination of the air is consequently the first duty of aviation. Any detachment from the aerial army weakens it and will make aerial supremacy more problematical. Consequently auxiliary aviation should be suppressed as superfluous, useless and dangerous.

The theory, in its primitive state, embraced only aerial warfare. Since its conception it has been amplified and may be translated: "Defensive on land and sea; offensive in the air."

Stabilization during the World War was not a matter of chance but obeyed the natural law. Terrestrial and naval defense has a certain superiority over the offense. Within limits it is possible to hold enemy forces with forces sensibly weaker. To have probabilities of success, land and naval offense must have a considerable superiority over the defense.

There is nothing of the kind in the air. As yet no aerial defense is truly efficacious. The offense, in the air, is superior. Offense must be understood as including surface attacks.

Assuming the impossibility of being strong everywhere, land, sea, or air forces must be united in the domain which will be decisive. The air is the field in which the offensive permits the greatest return. Aviation need not act against hostile air forces alone but against armies, navies, political and industrial centers. The air is therefore the decisive field. From this is deduced that air forces must be massed and given an offensive attitude. This decision relegates the army and navy to the defense. But all forces employed must be used to further the effort in the air—only the indispensable minimum being detailed on strictly defensive missions.

The aerial army will not seek the other air force to defeat it in battle —it is too easy for the weaker to elude the stronger—but will try to provoke the other to fight. This will save useless cruising—and will, meanwhile, have caused a considerable damage in hostile territory.

Pursuit airplanes give meager returns in air defense weapons. Fixed defenses are not very efficient: they bother but do not stop aviation. Even to gain this mediocre result requires too many installations. Antiaircraft defense must be concentrated at vital points. Passive means do not prevent flights.

The principal objections to this new doctrine may be grouped in four categories.

The first, those raised by proponents of auxiliary aviation, who cannot conceive of the army and navy deprived of such services. General Douhet replies that the aerial army would easily destroy these auxiliaries.

The second objects that the theory does not take care of aerial defense: that air domination can be but local. General Douhet replies that for aerial defense it will be necessary to have air forces superior to the attacker.

The third objection lies in the theory of aerial combat. The attacker must traverse space in hostile skies. In the air, says General Douhet, the weaker can hide and the stronger cannot make him fight. The stronger will not search for the weaker but will try to lure him to give battle. The air army must therefore be able to attack the ground.

The last objection affirms that that the air will not be the decisive field—relative values for land, sea, and air must be assigned. General Douhet answers this by saying that attempts to be strong in all three results in being strong in none.

But General Douhet should accept that war is integral, and it is useless to conquer in one field if on the whole he is defeated.

The study has been published in concrete form; in which General Douhet imagines a war between Germany and a coalition of France and Belgium. Since 1927, although his critics have been numerous, General Douhet has gained considerable influence in Italy. As far as possible these ideas are being experimented—long voyages, and masses of planes for maneuvers.

In all countries these ideas have caused considerable controversy. They are revolutionary and against tradition. But after all battle is only one means of winning. There have been conflicts without battle even some so-called decisive battles have failed to produce a decision. Napoleon, in spite of his land vic-

tories, suffered during his entire reign the loss of his navy. Battle is but one means of breaking the adversary's will. Others give the same result: moral, by propaganda; economic, by blockade and devastation, although these are slow. The airplane can operate over wide distances and strike blows at objectives deep in hostile territory.

Armies take time to mobilize, navies to get ready for fighting, but airplanes can be made ready in a few hours. When will air forces find better employment than at the beginning of hostilities? Offensive action brutally realized by airplanes on an unprepared country may reduce it rapidly to impotency. If this result is not gained the defensive attitudes of army and navy will come into play and will gain time for an effort to gain the decision.

The special geographical location of Italy explains for itself the tendencies of this theory. However, the new doctrine opens up field for thought and speculation as to how it would apply to or affect one's own country.

September 1932

(19) CONSIDERACIONES SOBRE LOS MÉTODOS EN LA INSTRUCCIÓN DE OFICIALES. [Considerations on methods of instruction of officers.] Coronel Monferini J.M.

The estimate of the situation is the activity most important and decisive in the conduct of war, since from it are derived the decision and orders of the commander.

All the natural sciences are constituted by laws and formulas. To obtain certain results it is only necessary to actuate the causes. These effects are generally known beforehand.

In the social sciences and historical activities the same cause often produces effects entirely distinct in every sense. There is no regularity or fixed relation between cause and effect. The multiferous ramifications caused by the slightest variation of a single factor beyond the control of the director—such as excessive rains, change of wind, and other acts of God, incomprehension or delay of a subordinate, death, disease, etc.—prevent laws being fixed with any degree of security.

In the conduct of war, one of the social sciences, the teachers of the deductive method teach principles and then apply them to concrete cases. This has the danger of indicating formulas and giving the student the idea that any problem may be solved by their use. This method is particularly prevalent in peacetime. The artificial problems drawn by the director of instruction necessarily involve certain principles. The situation is in reality much more complex; without mentioning more, the spiritual and moral factors often influence the decision. The commander educated by this system alone does not thoroughly study the situation. Confronted by a tactical problem he seeks the principle that concerns it and decides according to what that principle indicates. The true spirit of leadership is destroyed. One must avoid the formation of minds that adopt decisions based on "ground rules" exclusively. The judgment and reflection of the leaders should be guided by the spirit and the essence of war acquired principally by experience or, lacking that, by military history.

The spiritual factors cannot be embraced by principles that establish relations between cause and effect. In long periods of peace these factors are overlooked and the estimate of the situation fails to consider them. It becomes purely material and tends to follow rules. The leaders become systematic and hidebound.

In the conduct of war, as in other social sciences, the inductive method should also be used. Events are always distinct and there is no possibility of forming rules for them. The study of these events, in history, clarifies the spiritual characteristics of the profession.

Each individual situation must be thoroughly studied and all factors evaluated and weighed before a decision is reached. If the estimate has been properly made and a logical decision reached, the orders will largely take care of themselves.

Both methods, deductive and inductive, are indispensable to the solution of any problem. For the conduct of war, the inductive method must necessarily predominate. War is, above all, action, and acts

decide it. One must be able to appreciate soundly what is known and guess what is not known.

In approaching the problem of instruction of officers, the first step is the extremely careful selection of instructors. The next is the preparation of officers to receive instruction. This preparation must be moral, intellectual, and physical. The natural aptitudes of the individual must be developed.

The two methods, deductive and inductive, may be compared to Science and Art. The former follows definite laws; the latter is a personal creation. The scientist bases his work on facts; the artist on his conception of them. Science is progressive, but always according to laws; art does not progress in a regular fashion. The laws of science may be learned; an artist is unique and his aptitude cannot be transmitted to his pupils. War is a combination of both science and art. The latent and inherent aptitudes of officers must be cultivated by the instructor.

The instruction must be both theoretical and applied to concrete cases. The student progresses by the exercise of his own faculties in the solving of definite problems. Unfortunately, the imponderable factors, such as lack of energy, lack of initiative, special idiosyncrasies, etc., of one of the adversaries cannot well be introduced. In war there are no parallel cases; every action is different. The officer who solves problems in a routine manner by searching his memory (or books) for a similar problem is doomed to failure in war. Schematism is another similar vice as it is the attempt to solve problems by formulas. It is generally a sign of mental impotency for comprehending the essence of war. It is, however, the most common defect in peacetime.

All methods of instruction should be used: map problems, war games, tactical rides, exercises with troops, lectures, map maneuvers, map exercises, etc., according to a regular schedule of carefully planned work.

(20) ALGUNAS INDICACIONES SOBRE LAS ÓRDENES DE COMUNICACIONES A IMPARTIRSE A LAS UNIDADES DE TROPAS PARA EL COMBATE. [Some notes on communications orders to be imparted to troop units for combat.] Tcnel. Gonzalez J.P.

Second, and last, installment reference signal communications. As in the U.S. service, the division order gives the general plan and a signal communication annex is issued. Thereafter the signal officer issues his order for the employment of signal units which execute the orders. Follows closely U.S. methods.

(21) EL REABASTECIMIENTO DE ARMAS, MUNICIONES Y MATERIALES DE GUERRA EN EL EJÉRCITO ALEMÁN DURANTE LA GUERRA. [The supply of arms, ammunition and war material in the German army during the World War.] Gral. Brig. Knoblauch

Does not offer new ideas or indicate new ways but presents in an orderly manner the subject which was extracted from many sources. The strict interpretation of transport and delivery to troops not used but rather the procurement and listing as to class and quantity.

The Ministry of War was charged with all work relative to the organization and supply of the German Army. The advance of mechanization obliged the Ministry to be organized into divisions. The Artillery Arsenal was the division for all that class of matériel and it was in turn subdivided into departments such as: powders, experiments, matériel, inspection, etc. Another division of the Ministry, the General Inspection of Material, was charged with providing arms, ammunition and material for the army. In addition to the Prussian section there was also one in Saxony and one in Bavaria. The three supervised all the productive and technical institutions of both infantry and artillery and depots of artillery and trains in Germany, viz.:

Bureau of Infantry Constructions
- 4 Rifle Factories
- 2 Small Arms Ammunition Factories

Bureau of Artillery Constructions
- 6 Artillery Factories
- 4 Projectile Factories
- 3 Gun Foundries
- 4 Powder Plants
- 4 Laboratories of Explosive Materials
- 89 Artillery Depots
- 25 Train Depots

The preparatory work was based on the estimate of the probable duration of a war. Compared with reality, all this was found to be insufficient, as was experienced by all belligerents. Germany, however, had to look to her own resources because of the blockade. Her first care was to create stocks, which were necessarily in reduced quantities. By reason of the pre-war registration of industries, man power, resources, transportation, etc., which had been very minute, the mobilization of these was simpler than in other countries.

The immense consumption of ammunition and of portable fire arms which became apparent in the first weeks of the war, as well as the new formations, obliged a considerable amplification of government-owned factories. To stimulate private production, which lagged because of the hesitancy to introduce costly transformations and to expand greatly when it was thought the war would be of short duration, the government offered higher prices. Soon it became evident that all these means would be still entirely insufficient and new means were adopted; some in the form of laws. The principal of these forbade the exportation of anything that could be used in war under the most ample interpretation.

With the entrance of England into the War and the danger of an economic blockade the most important step of all was taken. This was the creation of the "Division of primary materials for the war" under the Prussian Ministry of War. Its mission was to seek, locate, collect and administer all primary materials and sources of supply necessary for all war industries. The mission soon increased to include the occupied regions and then to fix the quantities of materials indispensable to the exigencies of life of the civil population therein, as well as to look for possibilities of introducing economies, procuring new sources of production and to find substitutes for materials most rapidly consumed. The organization soon embraced the entire economic life of the nation.

Closely related with the foregoing was the new 8th Division of the Ministry which governed exports and imports. It had a difficult task in securing imports of materials needed and at the same time preventing anything needed in the war from leaving the country.

Without conscription of labor, the war industries soon suffered from lack of experienced workers. Laws regarding night work and Sunday work and also with respect to employment of females and minors were revoked. Methodically they proceeded to replace men by women, minors, and later by invalids, wherever possible. These means did not, however, fulfill the requirements and a systematic search was instituted to recall from the front such personnel as was deemed indispensable for the functioning of these enterprises. Unfortunately many of the men sought were already victims of the War, which demonstrates how much simpler and better it would have been had all these men been listed in time of peace and kept at their professions.

Although Germany had, before the War, an industry second only to the United States for making machinery, its production was soon found to be inadequate. In peace time no record had been kept of machines by quantity, type and production and in time of war it was impossible to do so. However, all machinery that could be located was requisitioned, including that in occupied territory. To fulfill the needs for increased output all methods of mass production were copied, even though involving the violation of patents.

As early as October 1914, there was an appreciable shortage of ammunition, but by developing a poor grade of projectile the output was measurably increased. In other lines the scientists and technicians were also busy; nitrogen was obtained by their own methods, artificial silk produced, glycerine extracted from sugar, sulphuric acid from calcium sulphate, and iron, zinc, and light metals were substituted for bronze, brass, and copper. The latter was of such importance that government-owned plants for producing aluminum were created. Synthetic rubber was developed. To economize on glycerine and release sugar for other uses, solutions of potassium

and soda were used for refrigerating liquids and hydraulic brakes. In addition to the powders of nitroglycerine and nitro-celulose bases, powders with an ammonia base were produced. Wherever economies could be effected they were made and where not, substitutes were used, if any could possibly be found. With the bases for larger production of munitions assured, a "program of munitions" on a large scale could be prepared. Production of powder rose from a pre-war 200 tons monthly to 10,000 tons monthly in 1917.

When it is considered that each increase in production involved simultaneously an amplification of existing factories and the construction of new ones and the necessary increased production of steel and coal, some idea may be had of the enormous demands upon the transportation services.

Even in the first months of the War there was an unsuspected expenditure of rifles. Even with organized and thorough salvage the manufacture could not keep up with losses. Use of obsolete models and the construction of a new factory failed to bring the supply to normal. It was then that Professor Bomberg's idea was adopted. Instead of making complete rifles in each plant, separate pieces were to be made by over 100 factories and all shipped to central assembling plants. This large scale production solved the problem. Somewhat similar quantity production methods met the demand for light artillery needs. For the heavy artillery, of 53 distinct models, there was no great difficulty.

Optical material supply lagged at first but increase of size of plant, reorganization so as to replace all hand workers possible by machinery, substitutes for prime materials found, allowed this branch to catch up on production. Trench warfare, submarine, and aerial needs and the necessity of exporting this class of goods in order to obtain primary materials came like an avalanche but the industry managed to meet the demand during the whole War.

In other supply branches peace time planning had not foreseen the tremendous exigencies of war. There were 90 types of vehicles and spare parts were not interchangeable. Whole articles of equipment, or parts of others, were made of primary materials such as leather, copper, brass, iron, nickel, etc., and substitutes had to be found and used.

Engineer supplies were exceptionally scarce, among which may be mentioned barbed wire and bags for sand.

Upon becoming commander-in-chief, von Hindenburg expressed the belief that the War could be brought to a successful conclusion only by a collective and heroic effort of all the forces of the people and of the country in order to obtain superiority of material for a decisive blow. To this end the "Hindenburg Program" was evolved.

The first step was a reorganization of bureaus and officers of the Ministry of War for better procurement methods. One feature of this was the "Department of Personnel Replacement" which was very necessary due to the expansion of war industries. Faced with the task of getting personnel without weakening the front, the Auxiliary Service Law was passed requiring all males between the ages of 17 and 60 unfit for service at the front to give auxiliary services. This coupled with the increased employment of women and minors released more able-bodied men from the factories for active service in the field.

Linked with the doubling of munitions production was the corresponding obligation to increase production of coal and the consequent augmentation of demands on transportation, both rail and water. The impossibility of getting better returns from the last delayed accomplishment of the program from the beginning of spring to October 1917. Whereas the demand for heavy artillery pieces remained constant and that for light artillery decreased by 75%, the production of machine guns and trench mortars were trebled. This was accomplished by the methods of Professor Bomberg. The production of hand grenades was never a problem at any time.

To take care of the immense amount of material to be sent to the various fronts, troop transportation, etc., a transportation division was created in the Ministry of War. All material possible was shipped by

water in order to economize on rail transportation. The whole matter was carefully studied and adjusted to avoid repetition of the painful experiences of the first year of the War. To further reduce transportation, repair shops for all classes of material were established well forward. In moving situations these repair shops were on trucks.

It is therefore evident that Germany entered the War unprepared economically because it was not foreseen the predominant part that material and machinery would play. Equally erroneous and pernicious was the opinion relative to the duration of a modern war.

(22) DESDE MI PUESTO DE OBSERVACIÓN EN PARIS: LA GUERRA QUIMICA. [From my observation post in Paris: Chemical warfare.] (XIV) Mayor Fantini Pertine

Last installment of series. Endeavors to bring home to his countrymen the necessity for antigas and antiaircraft defense. He prescribes for organizations—both official and private: (a) The study of chemical warfare and its methods, (b) Education in preventive measures, (c) Defense of civil population by all possible technical means, (d) Coordination of activities of all organizations.

In these the author believes in beginning the education of children in the schools as well as their parents, passing of laws for buildings of all kinds requiring bomb and gas-proof cellars, construction of public shelters (as in France), special training of doctors, nurses, etc., organization of sanitary personnel, preparation of aid stations, and many other methods for defense and protection. He is evidently embued with the same fear so common throughout Europe.

(23) PUNTOS DE VISTA PARA LA ORGANIZACIÓN DEL HOSPITAL MILITAR DIVISIONARIO DE CÓRDOBA. [Points of view for the organization of the divisional military hospital of Cordoba.] Cir. de Brig. Zwanck T.

A review of the book "Doctors and Soldiers," by Dr. Paul Abram, an historical narrative of the French medical service during the War, and an explanation of how the Cordoba hospital has been organized along lines shown to be correct by the principles and methods tried and proved during the World War.

(24) OPERACIONES EN PAÍSES DE MONTANA. [Operations in mountainous countries.] (Employment of large units.) (II) Capitán Teisaire R.

Reconnaissance and security are generally confided to the infantry. The difficulty of terrain and ease of surprise make this service painful. Such detachments are usually sent out hours in advance to facilitate the march of the column.

The composition of the advance guard and its distance from the main body will depend upon the exigency of its services and a number of factors such as: number and importance of obstacles to be seized, timely occupation of points indispensable to the security of the main body, avoidance of interruption of march of the main body, lengthening of columns.

The advance guard should have mountain artillery and machine guns attached to it. Field artillery will not usually be so attached.

Protection of the flanks will be carefully established because of the ease of surprise.

In mountains the staging areas are very limited and situated at variable distances from each other. Resources are restricted and indeterminate. These factors must be considered in making dispositions for the march; often a command must be divided during halts.

Roads, even in the bottoms of the valleys, frequently have steep slopes which will influence the regularity of march and if not foreseen in time may cause grave difficulties for the rear units and obstruct the supply services.

Reconnaissance must be made even if the terrain be known. The rapid meteorological changes of the region often seriously affect the road net. When near the enemy, the crests should be used, although more difficult for the march, as they dominate the valleys and offer favorable terrain for deployment.

Each column following a valley road should be flanked by detachments on the heights on either side. With several columns, the size and composition of each depends upon the route and the distance. Thus a certain unity of action is assured

in spite of being separated by obstacles which make liaison difficult.

Even with all means of communications at their best, liaison is delicate and subject to interruptions. Important operations must therefore be decentralized in execution.

The lack of local resources prohibits troops from remaining a long time separated from their transportation. But this transportation must overcome serious difficulties to reach the troops and must receive special attention on the part of the commander. Dumps established along the principal line of communications facilitate supply. Mechanized traction is of great utility.

Upon meeting the enemy the advance guard will frequently act offensively to overpower the resistance offered or to seize advantageous positions.

Because of the influence of the terrain and the difficulty of appreciating it accurately from the map the commander should march with the advance guard when the enemy is liable to be encountered.

Be careful not to deploy more troops than the terrain will accommodate.

The front to occupy depends on local conditions, particularly extent of position and impracticable zones.

For early entry into action of the main body, it should close on the advance guard as soon as the latter establishes contact, using terrain favoring movement.

In mountains there are many opportunities for supporting forward elements by overhead fire.

Opportunities for the use of a general reserve are rare. Each unit holds out its own local reserve.

The more broken the terrain the more important the maneuver. Frontal attacks are very costly and rarely successful. The flanks and rear must be attacked—often while containing in front.

The many dead spaces afford the attacker protected routes of approach.

Detachments favorably placed may influence the action by fire support alone.

Any attack must be made rapidly to avoid losses. A well-ordered fire preparation, by both infantry and machine guns, assure success.

Surprise produces a decisive effect. A unit surprised will have great difficulty in deploying in a new direction. Deceive the enemy as to real intention and exploit every occasion where his vigilance fails.

Night and fog favor movements of the attack. Terrain considered impracticable, if crossed, will surprise the enemy.

Protection of the flanks and rear are especially important. Any action against them may cause disaster.

A local success may sometimes cause the fall of the whole position. Secure whatever ground is gained and dig in. Advance the machine guns and mountain artillery to the conquered positions; but only enough to support the troops there.

Scarcity of roads, difficulty of terrain, fatigue and disorder, work more on the moral of the conquered than on that of the victor. A withdrawal executed under pressure easily changes into a route. Therefore do not limit pursuit to fire but continue the direct pressure and threaten the flanks of the retreating troops.

If the attack is unsuccessful, the infantry reorganizes under cover of artillery and machine-gun fire and prepares a new offensive or retires in order.

October 1932

(25) ORGANIZACIÓN METEOROLÓGICA MILITAR. [Military meteorological organization.] Galmarini A.G.

Lecture delivered at the "Circulo Militar" by the author, covering meteorology before the World War, military art and meteorology, the "strategy of weather" in wars, historical examples, including the Spanish Armada, Trafalgar, Waterloo, the Zeppelin raid on London on 19 October 1917, the Dardanelles, etc., showing that weather may be a deciding factor in an operation. Following these generalities is a very technical discussion of the subject.

(26) ACEROS DULCES AL CARBÓN DE ALTA RESISTENCIA Y SU ADQUISICIÓN EN EL PAIS. [Soft carbon steels of high resistance and their acquisition in the country.]

Extract from a lecture delivered by the engineer, Enrique Butty. Rather technical and not of general interest.

(27) PUENTE MILITAR MODELO TENIENTECORONEL MONTES. [The military bridge, model of Lieut.-Col. Montes.] Tcnel. Ing. Montes A.

The problem of crossing rivers in South America is quite different from that in Europe. The character of the water courses is different and the regions of probable operations do not provide materials for bridges. Division bridge trains do not solve the problem, although of great service.

The solution then lies in "dismountable" bridges, i.e., bridges of types suitable to the requirements foreseen, built in sections and stored at central depots. The sections, already constructed, can be quickly and easily shipped to the required point and the bridge constructed with the minimum of labor. Skilled labor for the construction is not necessary.

The ideas set forth in this article certainly merit investigation; particularly by our Engineers.

(28) COMENTARIOS ALS ARTICULO DEL CAPITÁN MITROVICH, DEL EJÉRCITO YUGO-ESLAVO, SOBRE EMPLEO DE LA ARTILLERIA EN TERRENOS BOSCOSOS. [Commentaries on the article of Capt. Mitrovich, of the Yugo-Slav army, on the employment of artillery in wooded terrain.] Capitán Varas

Very little has been written about the employment of artillery in wooded regions. Probably because of the limited extent of zones of that character in the probable European theaters of operations.

The employment of artillery is inseparably linked to its observation and wooded terrain limits observation. The search for and location of objectives becomes difficult. The cover and concealment of firing positions is very easy but the question arises: Can a battery fire from such position?

Most firing will have to be from the map. The topographic work necessary for this is more difficult by reason of the woods and scarcity of definitely located points. Reconnaissance is more difficult and demands more time. Maps cannot be relied upon.

The configuration of the terrain limits the field of fire and it is scarcely possible to put more than a battery in one position or to concentrate the fire of several batteries on one objective. The objective must, therefore, be divided into zones, longitudinally and latitudinally, or parts that various batteries can reach. The fire will be conducted by the map, which must be carefully checked, especially as to located reference points.

Observation is the biggest problem. It may be possible to get some terrestrial observation but it should be supplemented by balloon and airplane observation.

Artillery with a high angle of fire is not as difficult to emplace as that with a flat trajectory. The latter should be placed near the rear edges of clearings, either natural or created artificially. This last exposes the artillery to discovery by airplanes and usually it is better to place batteries where woods are thin and thin them out still more but with care not to unmask the battery. Forward batteries will be most difficult to emplace. Artillery with a curved trajectory may be emplaced farther forward.

Opportunities for flanking fire should be sought.

Communication is more difficult. Optical means are not practicable due to low visibility. Acoustical means also fail due to distances. The telephone must be the main channel. This will require considerable wire and more than the normal complement of phones. Wires should be buried as far as possible. Conconsiderable time will be necessary for communications to be installed but operations in woods usually move slowly.

Control of artillery will be more decentralized. The topographic preparation must be careful and thorough as most objectives will be designated only by coordinates. Close liaison must be maintained with the infantry unit being supported.

Concentrations of fire will be difficult in any case but even more so when the target is also in a wooded area. Shrapnel is ineffective and can only be used for registration. The same is true of time-fused shell. Percussion shell will be the projectile normally used against personnel and matériel in the open, while delayed action fused shell will be used against dug-outs, etc.

(29) DESDE MI PUESTO DE OBSERVACIÓN EN PARIS: LA MOTORIZACIÓN. [From my observation post in Paris: Motorization.] (XV) Mayor Fantini Pertiné

This is the first of a new series of articles by this author. In the foregoing series he very completely covered the European views on Chemical Warfare, pointing out the lessons to be learned by the Argentinians. The introduction to the present series traces the history of motorization and carries an appeal to the Argentinians to study this subject. In this installment he covers very fully the development in England and in the U.S., the Citroen Central Asia Expedition, notes on developments in France, Russia, Italy, and Germany.

While the article is interesting to show foreign trend, most of it is already familiar to us.

(30) ALGUNOS PUNTOS DE VISTA A CONSIDERAR EN LAS CRITICAS. [Some points of view to be considered in critiques.] Coronel Monferini J.M.

In critiques superior officers have the most efficacious means of orienting and guiding the preparation of their units. Critiques are of different kinds: (a) Tactical and similar exercises; (b) On historical studies; (c) Of general character. All of these are discussed in detail as well as the forms of critiques. A well-written article and worth reading.

(31) EL GENERAL PAZ EN LA ORGANIZACIÓN Y EN LA DIRECCIÓN DE LA DEFENSA DEL SITIO DE MONTEVIDEO. [General Paz in the organization and the direction of the defense at the siege of Montevideo.] (II) Cap. de Frag. Yaben J.R.

The second installment of this series. An interesting and detailed account of the siege but not of great value to the C. & G.S.S. except to show what Leadership accomplished in the face of wholesale desertions, treason, treachery, and with very limited and antiquated means and matériel.

(32) LOS ZAPADORES PONTONEROS EN LA BATALLA A TRAVÉS DE CURSOS DE AGUA. [Ponton bridge sappers in battle across water courses.] Coronel Bailis

The importance of water courses in war is of all times. At the present time, with mechanization and modern fire-power, they are even more important. While modern battle demands the early entrance into action of all means, the sapper is obliged to beg more time for bridge building. More than ever streams, even of little importance, will be sought as obstacles on the front of the defense.

Following general remarks on the concentration or constitution of an army for a war of movement and preparations to be made during the approach march, the author discusses the following historical examples from the World War:

(a) Passage of the Moselle by Garnier's Cavalry Division and the 34th German Infantry Brigade;
(b) Passage of the Moselle by the Third German Army;
(c) Passage of the Tagliamento by the Austrians;
(d) Passage of the Aisne by the IV Corps of the Sixth French Army;
(e) Passage of the Aisne by the VII Corps of the Sixth French Army;
(f) Passage of the Argesul by the 12th Bulgarian Infantry Division;
(g) Passage of the Save by the Austrians;
(h) Passage of the Aisne by the 69th Infantry Division;
(i) Attempted passage of the Aisne by the 56th Reserve Division.

Upon these the author bases his commentaries and draws his conclusions as to the means, matériel, and labor that should be an organic part of the troops engaged in the operations. While essentially dealing with the engineer's problems, there is included in the article a good deal of the tactics of river crossings.

47—REVUE D'ARTILLERIE (France)

BY LIEUT.-COLONEL L.P. HORSFALL

August 1932

(1) LA MANOEUVRE DE LA MARNE. [The Marne maneuver.] (II) Colonel Valarche

This installment covers the operations in Lorraine, 23 August, to 2 September, 1914. Four good situation maps accompany the text.

(2) LE TESTAMENT DU COMTE SCHLIEFFEN PAR LE GÉNÉRAL GROENER. [General Groener's book, "The Testament of Count Schlieffen."] (I) Chef d'escadron Dupont

An extensive book review, chapter by chapter, of General Groener's book about Count Schlieffen's strategic doctrines as shown by his testament, or thesis, which he wrote in 1905, upon retirement, and which proposes a plan for the invasion of France through Belgium. General Groener ascribes responsibility for failure to von Moltke, Junior.

(3) LE PROBLÈME DE LA CENTRALISATION DU COMMANDEMENT DANS LE TIR CONTRE AVIONS. [The problem of centralized control in antiaircraft fire.] Chef d'escadron Worbe

A technical discussion of methods to overcome the difficulties of antiaircraft fire control.

(4) PRÉCISION ET CONDITIONS D'EMPLOI DES APPAREILS DES SECTIONS DE RÉGLAGE PAR COUPS FUSANTS HAUTS MOD. 1924. [The precision and conditions suitable for the use of high burst ranging fire control instruments, model 1924.] Lieutenant Mazereau

A technical discussion of standard methods of using fire control instruments.

(5) LE CARROUSEL DE FONTAINEBLEAU. [The Fontainebleau field day, 1932.] Capitaine Aizier

A description of the horse show, 18 June, 1932, at the Fontainebleau Artillery School.

(6) RENSEIGNEMENTS DIVERS. — ANGLETERRE: LE CINÉMA ET L'INSTRUCTION DANS L'ARMÉE. [Miscellaneous items.—England: The use of moving pictures for instruction purposes in the army.] A review of an article in the "Army, Navy and Air Force Gazette" of 2 June 1932.

(7) RENSEIGNEMENTS DIVERS.—DANEMARK: LUNETTERIE POUR MASQUES ANTIGAZ. [Miscellaneous items.—Denmark: Gas masks for persons who must wear eye-glasses.] A review of an article in "Dansk Artilleri Tidskrift" of June 1932.

September 1932

(8) LA MANOEUVRE DE LA MARNE. [The maneuver of the Marne.] (III) Colonel Valarche

This article is a continuation of the story of the Marne (see issues of July and August, 1932 "Revue d'Artillerie). Five good maps give the situations on 27-31 August, 1914. The text covers the crossing of the Meuse by the German Fourth Army on the front: Sedan—Stenay, and the approach to the Aisne, opposed by the French Fourth Army. These operations followed the Battle of Frontiers.

(9) AU SEJET DU REPÉRAGE PAR COUPS FUSANTS HAUTS. [High brust ranging.] Capitaine Dillange

This article amplifies the text of the French regulations, and is a technical discussion of high brust ranging with angles of elevation less than fifteen degrees.

(10) LE TESTAMENT DU COMTE SCHLIEFFEN, PAR LE GÉNÉRAL GROENER. [General Groener's book, "The Testament of Count Schlieffen."] (II) Chef d'escadron Dupont

This installment completes the article commenced in the August 1932 issue of this magazine. It compares the doctrine of Schlieffen with the actual execution of the plan for the invasion of France. General Groener blames faulty execution for the failure of the Germans to secure a decisive victory. This article is of special interest in connection with the study of the Battle of the Frontiers.

(11) PROCÉDÉS PRACTIQUES DE DRESSAGE ET D'EQUITATION AVEC SERVICE À COURT TERME. [Practical methods of training in equitation for short term recruits.] Capitaine Lignon

The article gives practical methods of training horses and recruits based on actual experience.

(12) L'ARTILLERIE VOLANTE. [Highly mobile artillery.] (I) Capitaine de Rimonteil de Lombarès

This installment gives a brief account of the early history of horse artillery, and commences the citation of instances where it was used during the World War. The author intimates that later he will give some of his own ideas on very mobile artillery.

(13) RENSEIGNEMENTS DIVERS.—CARACTÉRISTIQUES DES MITRAILLEUSES DE FORTS CALIBRES. LA PROTECTION DU BALLON D'OBSERVATION. [Miscellaneous items: Characteristics of large calibre machine guns (Hotchkiss). The protection of observation balloons.]

A review of an article in "Revue de Forces Aeriennes" of April 1932.

(14) RENSEIGNEMENTS DIVERS.—ALLEMAGNE: PROTECTION CONTRE AVIONS PENDANT LA GUERRE DE MOUVEMENT. [Miscellaneous items: Germany.—Antiaircraft protection in mobile warfare.]

A review of an article in "Revue Militaire Suisse" of September 1932, and concerns a study by a German, General Cochenhausen.

October 1932

(15) LA MANOEUVRE DE LA MARNE. [The Marne maneuver.] (IV) Colonel Valarche

This installment covers operations of the center of the French line at the Battle of the Meuse, 25 August-1 September 1914. The French Fourth Army retreated after the offensive in the Ardennes had been stopped. General Langle de Cary found it necessary to retire behind the Chiers and Meuse, to prepare for further operations. There are five excellent situation maps attached to the text.

(16) GRAPHIQUE OMNIBUS POUR LA CONSTRUCTION DES QUEUES DE TRAJECTOIRES. [A general graph for the construction of sheafs of trajectories.] Colonel Viant

A technical discussion of a method by which a single graphical chart will permit of the solution of certain trajectory problems for all ranges.

(17) L'ARTILLERIE VOLANTE. [Highly mobile artillery.] (II) Capitaine de Rimonteil de Lombarès

This final installment includes several historical examples of the use of horse artillery; among them the raid of the French 5th Cavalry Division during the Battle of the Ourcq (10-13 Sept. 1914), in which mobile artillery proved to be very useful. The author concludes that the future of highly mobile artillery will depend upon developing more suitable weapons, and better transportation facilities.

(18) UN ARTILLEUR FRANCAIS IMPROVISÉ A CONSTANTINOPLE, AU DIX-HUITIÈME SIÈCLE, LE BARON DE TOTT. [Baron de Tott, a French artilleryman at Constantinople in the 18th century.] (I) An account of improvized expedients in the early history of artillery.

(19) RENSEIGNEMENTS DIVERS.—ITALIE: SILENCIEUX POUR CANONS. [Miscellaneous items. Italy: Silencers for cannons.] A review of an article appearing in the "Army, Navy and Air Force Gazette," 25 August, 1932. A discussion of methods of eliminating the smoke as well as the noise of artillery fire.

November 1932

(20) LA MANOEUVRE DE LA MARNE. [The Marne maneuver.] (V) Colonel Valarche

Another installment of the study of the Battle of the Marne, covering the German attempt to envelop the northern flank. The period covered is 25-30 August, 1914.

(21) UN ARTILLEUR FRANCAIS IMPROVISÉ À CONSTANTINOPLE, AU DIX-HUITIÈME SIÈCLE, LE BARON DE TOTT. [Baron de Tott, a French artilleryman at Constantinople in the 18th century.] (II) Laulan

This installment concerns the defense of the Dardanelles against the Russians.

(22) A PROPOS DE L'OBSERVATION AXIALE. [Axial observation.] Capitaine Guillemin

A technical and mathematical discussion of the adjustment of artillery fire.

(23) NOTE CONCERNANT LA PRÉPARATION DU TIR À L'AIDE DE GRAPHIQUES. [Notes on the use of graphs for calculating firing data.] Lieutenant Bastard

A technical discussion of a rapid method of obtaining firing data.

(24) RENSEIGNEMENTS DIVERS.—HOLLANDE: CANON D'INFANTERIE DE 4,7 CM L/30 SUR AFFÛT UNIVERSEL À FLÈCHE OUVRANTE ET OBUSIER D'INFANTERIE DE 7,5 CM L/13 DE LA "HOLLANDSCHE INDUSTRIE EN HANDELMATCHAPPIJ" "SIDÉRIUS." [Miscellaneous items: Holland.—A 47 mm. infantry cannon, and a 75 mm. infantry howitzer manufactured by the Siderius Company.]

A description and pictures of these two weapons, extracted from "Wehr und Waffen" of March, 1932.

(25) RENSEIGNEMENTS DIVERS.—ETATS-UNIS: RÉORGANISATION DE L'ARMÉE. [Miscellaneous items: United States.—Reorganization of the army.]

An extract from the "Army, Navy and Air Force Gazette" of 8 September 1932, which describes the creation of four army headquarters at New York, Chicago, Omaha and Fort Sam Houston.

48—REVUE DE CAVALERIE (France)

BY MAJOR N.B. BRISCOE

September-October 1932

(1) LA DÉFENSE DE LA BRÈCHE KLUCK-BÜLOW PAR LES CORPS DE CAVALERIE MARWITZ ET RICHTHOFEN (6-9 SEPTEMBRE 1914). [The defense of the gap between the Armies of von Kluck and von Bülow by the cavalry corps of Marwitz and Richthofen, 6-9 September 1914.] (III) Lieut.-colonel Pugens

This is the third installment of this account. The series is being made a study in Individual Research and will become available later.

(2) L'ÉLEVAGE DES CHEVAUZ EN TCHÉCOSLOVAQUIE ET EN SUISSE. [The raising of horses in Czechoslovakia and Switzerland.] (I) de Choin du Double

The first of a series of articles, accompanied by numerous photos, on a subject most interesting to the Remount Service, and those engaged in horse production. The writer pays the customary French tribute to the Germanic system of horse production and especially to the immense interest in riding and riding clubs in all the Germanic countries, inviting attention, as usual, to the great potential cavalry force thus provided.

(3) LES MOYENS OFFENSIFS DES A.M.C. [The offensive means of the armored cars.] Lieutenant Devenne

This article, containing eight figures and ten photos, is devoted to a discussion of calibres, angles of impact, and armor. There are a number of formidable-looking formulae and the photos show the results of tests of shattering and penetration of armor plate.

This article is a part of a group discussing various features of the A.M.C., an earlier one discussing the speed, weight, and armor of the vehicle. The present one extends the discussion to weight of armor, calibre of weapons, and stability of the "platform" for the weapon, leading to some conclusions, among which the author advocates two types of arms, one of 20 or 25 millimetres of high velocity and armor-piercing projectile, and the other of about 47 millimetres with an explosive projectile.

(4) LE 17E ESCADRON A. M. C. SUR LA HAMMADA DU GUIR. [The 17th Squadron A.M.C. on the Plains of the Guir.] (III) Lieutenant Durin

The third in a series describing the reconnaissance of some extremely rough high desert country of northern Africa. The account is not only a road report of the terrain but a mechanical log of the vicissitudes of the different types of motor vehicles present. It is a somewhat technical account of a tactical and practical test along the lines of the Sahara Desert mail service and the Harden trek across Asia last year. The French are really testing motor transport.

(5) A PROPOS DU LIVRE DU GÉNÉRAL BRANDT: "CAVALERIE MODERNE." [Apropos of General Brandt's book, "Modern Cavalry."] (III) Chef d'escadrons Z . . .

The third and concluding section of a series of digests of this book. This number takes up organization, armament, transport, and the included subjects of communications, engineers, cyclists, portée infantry, and medical service.

General Brandt expounds a principle, "The mass of the cavalry to the Army; the smallest contingent for the organic cavalry of the corps and divisions."

He debates the pistol-sabre subject and retains the sabre, because the pistol "blow" does not necessarily put the opponent out of the fight, is for light packs, small men, breedy horses, and deduces that it is necessary to have a larger proportion of artillery in a cavalry division than in an infantry division.

He introduces an unusual idea in arriving at the conclusion that the cavalry corps is the unit of combat instead of the cavalry division.

(6) "SAUMUR." [Saumur.] Lieutenant Rouzié

Being an article on the aims and results of the association of former reserve officer students at Saumur. Some 1100 cavalry reserve officers have passed through Saumur since the course for them was instituted in 1921, the society was organized in 1928 and took as its name that of the city "which in our eyes symbolizes our arm, 'Saumur'."

50—REVUE D'HISTOIRE DE LA GUERRE MONDIALE (France)

BY CAPTAIN L.J. FORTIER

October 1932

(1) LE MARÉCHAL FOCH EN ITALIE (OCTOBRE-NOVEMBRE 1917). [Marshal Foch in Italy, October-November 1917.] Michel

Mr. Michel discusses a very controversial subject, namely the part played by Marshal Foch in the Italian retirement of October-November 1917. Marshal Foch was sent by the French government to Italy shortly after Caporetto. His mission consisted principally in obtaining information of the situation and in making necessary recommendations for the employment of Allied reinforcements. The two main points discussed in the article are:

(1) Was the decision to defend on the Piave in lieu of on a line farther to the rear that of Marshal Foch or of the Italian general?

(2) Did Marshal Foch refuse to employ the French reinforcements in the defense of the Piave?

The author states that the final answer to both questions must await the publication of the official documents of the War for the year 1917. This period has not yet been covered by either France or Italy. However, with regard to the first question he shows that regardless of whose idea it may have been, Marshal Foch was in complete accord with the decision to defend on the Piave River.

Referring to the second point, he arrives at the conclusion that Marshal Foch did not object to the employment of French troops in the Piave defense provided that such action awaited their proper concentration and that they be not used "piecemeal." According to General Cadorna it would appear that Marshal Foch, although desirous of the defense on the Piave, was not certain that the Italian forces would hold and for that reason was reluctant to have the fresh French troops used in a "melée." In other words, that it would be preferable to hold them as a reserve for use in case the Piave defense failed to materialize, thereby preventing a rout. On the other hand if the Austrians were checked on the Piave then the Allied forces could be used to effect the relief of Italian forces with the possibility of launching a counteroffensive. General Cadorna appeared to feel that failure to use the French forces without delay on the Piave increased the possibility of an Austrian success and that had the Piave defense crumbled the eleven Allied divisions would have been insufficient to check the enemy's advance and avert disaster.

In conclusion, the author invites attention to the fact that a study of the controversy is of great value to military historians. For the incident discloses the inherent difficulty of making military coalition effective. General Cadorna and Marshal Foch had different points of view and, in a sense, they were both correct but they were of different nationalities. While one viewed the situation as a general of France, the other saw it only through the eyes of an Italian general who was operating on the soil of Italy.

(2) LE SÉNAT DES ETATS-UNIS ET LE TRAITÉ DE VERSAILLES. [The United States Senate and the Versailles Treaty.] Debyser

The second installment on this subject.

(3) L'INTERPRÉTATION DE L'ARTICLE 231. [The interpretation of Article 231.] Hauser

(4) L'ATTENTAT DE SARAJEVO ET SES RÉPERCUSSIONS IMMÉDIATES. [The outrage of Sarajevo and its immediate repercussions.]

Under this title we find several very interesting letters and reports of Russian officials dealing with the events that followed the assassination of the Archduke Ferdinand. They have been published by the Soviet government and are important to students who are interested in the developments that led to the World War.

51—REVUE D'INFANTERIE (France)

BY MAJOR R.C. SMITH

September 1932

(1) LE SOLDAT DE VERDUN. [The soldier of Verdun.] An oration by Marshal Pétain

(2) QUINZE JOURS DE LA VIE D'UN GROUPE DE 75 AU COMBAT AVEC L'INFANTERIE DANS LA "PETITE SUISSE" EN SEPTEMBRE 1914. [Fifteen days of the life of a battalion of 75's in support of infantry in

the region of Noyon in September 1914.] Général Challéat

An exercise conducted on the ground showing certain incidents that occurred during the period of transition from open warfare to a stabilization.

(3) DISCIPLINE ET INITIATIVE AU COMBAT: LA THÉORIE ET LA PRATIQUE, CAS CONCRETS. [Discipline and initiative in battle. Theory and practice; illustrative examples.] Colonel Segrétain

The author considers the apparent conflict that sometimes comes up "between the law of discipline and the necessity for initiative." Correct action in combat by a leader is like an alloy composed of the two metals, discipline and initiative. The proportion between the two must be exact.

The old French regulations, handed down from the Empire, stressed discipline and insisted "that orders be executed literally and without hestiation or question." The post-war regulations place greater emphasis on the development of initiative within proper bounds.

The author gives several illustrations of cases where commanders have used initiative to change orders or to abandon prescribed missions. He quotes several cases from the Franco-Prussian war. He cites von Kluck's change of direction before the Marne and criticizes him very severely for disobeying GHQ. He gives an illustration of a company commander in the attack of August 8, 1918, who changed his direction of attack when he found that the prescribed direction was not the one he believed intended by his superior. The action of this officer is approved by the author.

He considers the situation where a superior orders some line of action but the subordinate believes the basis for the decision is erroneous or that there are some important factors unknown to the superior. When means of liaison are available, the subordinate's duty is to inform the superior of this situation until the final and definite decision is made. Then it must be carried out with all the force and energy that can be mustered. He quotes Petain's instruction of 19 May 1917 on this subject.

The correct objective is the attainment not of blind but of an enlightened discipline.

(4) COMBAT DÉFENSIF: LA BATAILLE DE REIMS. [Defensive combat; the battle of Reims.] Commandant Delmas

An extract from the book "Infantry of the Victory," in which Commandant Delmas gives detailed account of the operations of a battalion of the French 79th Infantry in the latter part of July 1918. This unit was brought in to a sector east of Reims and placed at the disposal of the 2d Colonial Division. It was put in to relieve an Italian unit that had participated in the counteroffensive. The details of the relief are given. The Germans launched a counterattack and the battalion beat it off. The actions of the battalion commander are given in detail. An excellent illustration of the action of small infantry units in defense.

(5) EMPLOI DES TRAJECTOIRES COTÉES DANS LE TIR INDIRECT DES MITRAILLEUSES. [Use of grazing trajectories in indirect machine gun fire.] Lieutenant Franceschi

(6) CHRONIQUE DES REVUES MILITAIRES ÉTRANGERES: ESPAGNE.—LES OPÉRATIONS DE NUIT. LES EXERCISES SUR LA CARTE. [Foreign military periodical reviews: Spain.—Night operations.] A rather detailed review of a Spanish article on this subject with illustrative examples.

October 1932

(7) LE COMBAT D'UNE DIVISION: UNE PRÉFACE. [A division in battle; a preface.] Général Bineau

The preface of General Bineau to the monograph on the combat of the French 58th Div. south of Soissons, 20-23 July 1918. The general stresses the functions of the larger units: The corps is the battle unit par excellence, the indispensable intermediary between the strategical unit, the army, and the combat unit, the division.

(8) LA CAVALERIE DE L'INFANTERIE. [Cavalry with an infantry division.] Lieutenant Sereau

The "Revue des Sciences Militaires Belges" comments as follows: The question of light troops with large units is decidedly a live matter in France. Many studies have appeared in recent magazines and

now the "Revue d'Infanterie" presents a clear and precise study of this important question. The author —a cavalry officer—has endeavored to present to infantrymen "the possibilities and the employment of this specialized cavalry."

The author first gives the composition of a French divisional reconnaissance group:

Staff
One troop (horse) with four platoons (of two squads each) and a machine gun squad
One troop mounted on bicycles or motorcycles, with three three-squad platoons and a fourth motorized machine gun platoon
One platoon of five light armored cars
One platoon five motorcycle side cars with automatic rifles.
One light truck with two radio sets.

The author states that the following considerations must be borne in mind:

"The reconnaissance group forms a whole and should not be split up.

"That it has limited offensive power, sufficient however, to break through enemy light reconnaissance elements or to reduce weak isolated points.

"That its defensive capacity is relatively great because of the large proportion of automatic arms."

These rules are fundamental in using the reconnaissance group; a force that should be assigned missions in proportion to its capabilities.

The author then gives an illustrative problem of a divisional reconnaissance group in the advance guard of the division. He also examines other missions that could be assigned a reconnaissance group; covering a flank, exploitation of success, covering the establishment of outposts, protection of an infantry division on a night march. In the latter case the author states that the security force must be in place before dark:

"Since contact cannot be made at night, the detachment is pushed during daylight to the objective that will be reached by the infantry at the end of the night march. Thus the commander will have information prior to the movement of his main forces and the advance guards will be protected and will arrive on ground that is already known and occupied.

"The reconnaissance group whether we consider its present or its possible composition in the future, will always include diverse elements and hence of varying degrees of mobility. Furthermore, its mission will be a delicate one. For these reasons, its command will be difficult. Hence it is important that everyone should understand its employment, its means, its possibilities; the group itself should be familiar with the needs and the maneuvers of the infantry.

"The reconnaissance groups should be fully organized and equipped in peace time and should have training in working with infantry."

(9) LE FEU DÉFENSIF. [Defensive fire.] Lieut.-colonel Hassler

The author begins by announcing that this study concerns the organization and emplacing of defensive fire as distinguished from defensive combat.

The characteristics of the automatic rifle and machine gun are discussed. The former is considered very effective up to 1200 meters; the latter up to 2400 meters, by direct fire. The automatic weapons greatly increase the problems of ammunition supply.

Infantry stops attacks by fire. To be effective, the first band must be continuous, a zone rather than a line.

When an attack is held, the first concern of leaders of all echelons is to get a series of defensive fires organized.

We may be certain that, dangerous though night fighting may be, in future wars the attacker will use them. We must be ready to receive the enemy and to resume the combat. Troops will remain in combat formations, covered by outguards while digging in.

When a defensive position is taken not in immediate contact with the enemy, greater care may be

used. The defense relies on its fire and everything must be centered on making this most effective.

The defense distributes its fire units in groups whose location depends on the nature of the ground. Intervals may be left between them, the essential point being to have a continuous belt of fire in front of the position. A zone of terrain is defended, not by the men who occupy it but by the action of the weapons that may bear upon it.

Infantry never acts alone but always in cooperation with artillery. Hence the protection of artillery observation becomes of first importance.

A study of the map will show what part of the position is best observed from the attacker's point of view. This study will indicate the probable directions of attack and will permit the defender to organize his fires and locate his reserves to parry this blow.

The exercise of command is always difficult in the defense. A battalion commander can rarely exercise effective command over a wider zone than 1000 meters.

Outposts should be established at a distance sufficient to protect the main position from small arms fire.

The function of reserves is to reestablish the continuity of fire.

The counterattack by fire will precede that by movement. Both will have no other object than to reestablish the continuity of the defensive fires; this alone will stop the enemy.

(10) L'ART DE LA CONFÉRENCE. [The art of giving a conference.] Lieut.-colonel Besnard

The French standards apparently approximate those at our own schools. The conference given without notes is recognized as most effective but it is also admitted that most people will have to use rather copious notes and often read at least parts of their conferences. Conferences should not exceed one hour, and forty-five to fifty minutes is better.

Conferences must be based on adequate research or sound thought, should be logically arranged and carefully written, and the delivery must be practiced. In the delivery, the author draws many comparisons with singing. The voice should be capable of a wide range of expression. Sentences, like music, can be phrased to bring out the meaning. Pronunciation should be clear and distinct. Mannerisms in delivery should be avoided.

(11) COMBAT OFFENSIF: L'ENFONCEMENT DE LA LIGNE HUNDING, PRISE DER VILLERS-LE-SEC. [Offensive combat: Piercing the Hunding line southeast of Montdidier 24-26 October 1918.] Commandant Delmas

A detailed account of the action of the 2d Battalion 79th Infantry in an attack against a position. The battalion had two platoons of tanks attached. All orders and many incidents of combat are given. This is the same unit that was engaged in defensive combat at Reims and described by Commandant Delmas in the last issue of the "Revue d'Infanterie."

52—REVUE MILITAIRE FRANCAISE

(France)

July 1932

BY MAJOR W.H. WILBUR

(1) LA LUTTE POUR L'HARTMANNSWILLERKOPF. [The battle of Hartmannswillerkopf.] (II) Chef d'escadron Dupuy

An article on mountain warfare covering both attack and defense. The usual difficulties of mountain fighting including snow, fog, clouds, low temperature and difficulty of supply by mule and cable car are illustrated.

The comparative ineffectiveness of artillery due to rough terrain as well as supply, and the necessity for hand to hand combat including the use of hand grenades and flame throwers are brought out. The capture and recapture of the summit only to lose it again illustrates the indecisiveness of mountain warfare and demonstrates that the infantry of either side can dislodge the defenders if they wish to expend the men and resources to do so.

(2) CONSIDÉRATIONS TACTIQUES SUR LA GUERRE AU MAROC EN 1925. [Tactical studies based on the War in Morocco in 1925.] (II) Chef de bataillon Pots

A study of war against partly civilized tribes—covering both offensive and defensive aspects.

Offensive.—Prior to 1925 the French used fast moving mobile

groups. This worked very well against isolated tribes in rebellion. When the rebellious tribes became more numerous it was found that the mobile groups were frequently surrounded by greatly superior numbers and were soon rendered highly immobile. A new policy was adopted involving a large increase in numbers, the employment of artillery, the establishment of supply bases and the maintenance of lines of communication. Relatively strong forces operating from secure bases moved against the rebellious tribes. Having located the enemy he was attacked by a reduced strength frontal attack in conjunction with a strong encircling column or columns. Each of these columns generally approached the enemy in the following formation: (Note position of convoy and artillery.)

1st Cavalry whose duty it was to find and fix the enemy in position;
2d Infantry to make the principal attack;
3d Convoy of pack mules and wagon transport.
4th Accompanying artillery (usually mountain guns).

The attack is usually preceded by an artillery preparation. After capture of the desired objective the ground is immediately and thoroughly organized to withstand almost certain repeated counterattacks. Lastly, strong active patrolling of surrounding terrain is initiated at once. The author states, "experience in all African wars shows that the enemy never stands if menaced by strong attacks against his rear."

Defensive.—On those fronts where the French were not in movement, a defensive organization was established based on a series of organized localities, each one wired in, garrisoned, stocked and provisioned for strong, prolonged, independent defense.

The backbone of the line consisted of a series of centers of resistance, 7,000 or 8,000 yards apart, each with a minimum garrison of one battalion of infantry with machine guns and artillery.

A covering force is always employed likewise consisting of a series of mutually supporting strong points with a minimum garrison of one infantry company with machine guns and at times artillery. Just as on the main line, these strong points are wired in, stocked and provisioned for independent prolonged defense. At times friendly tribesmen are used in these covering forces but the dangers of such employment are indicated.

It is laid down as essential that no post or separate unit should have a garrison of less than one company.

Decentralization of command is apparently one of the guiding principles, each element being very much "on its own."

(3) COMPRENDRE. [Understanding.] (VI) (The proper use of military information.) Capitaine Carrias

55 pages, with numerous maps, a very interesting study of the military intelligence phase of the operations around Ethe and Virton in August 1914. The military intelligence situation on both the French and German side is covered although the French side is much more complete than the German.

The article contains a short account of the battles of Ethe, Virton, and Mangiennes, and a more or less complete study of the information which was collected or should have been collected during those operations.

The author makes the following points:

(1) The type of information desired varies greatly with the size of the unit considered.

(2) In the Battle of the Frontiers the difficulty was not due to lack of sufficient information; it was due to a failure to transmit information, and to a failure to properly evaluate that which was present.

(3) Failure to question wounded men and failure to get identifications was a frequent error.

(4) When the French Fourth Army changed direction it moved into an area which had been reconnoitered by the covering forces of another unit. No effort was made to obtain or use the information previously obtained by its neighbor.

(5) In war, the information collected will always contain some deformed or erroneous reports. The important thing is to consider ALL available information; this will lead to a very close approximation of the real enemy situation.

This article should be of particular interest to the G-2 Section.

(4) FLAUCOURT. [Flaucourt.] (III) (A study of the French effort in the Battle of the Somme, 1916.) Général Abadie

This article contains generalities and reflections of the author and other unnamed individuals under the general headings listed below. It is weakened by lack of documentation.

(1) General Plan.—Lack of flexibility.

(2) Artillery Preparation.—Should have included both enemy first and second positions. Delay in launching an attack on the second position was unnecessary and fatal.

(3) Exploitation.—No preparation for exploitation, hence opportune time for same was missed.

(4) Evolution of tactical ideas in 1916.—An interesting comparison of French doctrine of January 1916 and December 1916.

(5) L'ÉLÉMENT TERRAIN EN STRATÉGIE. [The terrain element in strategy.] (IV—Concluding installment) Général Duffour (Note: The author is now Commandant at the Ecole Supérieure de Guerre, France.)

The article contains the author's conclusions based on studies elaborated in previous issues. The following is covered:

(1) Terrain played a most important part in plans of campaign prior to 1914.

(2) In the future the influence of terrain on strategy will perhaps be quite different considering the effect of mechanized forces and aviation, especially so if the Italian theory of "defensive on land and sea, offensive in the air" is adopted.

August 1932

BY MAJOR V. MEYER

(6) LE RÔLE DE L'AVIATION DANS LA DÉFENSE NATIONALE. [The role of aviation in national defense.] Lieutenant-colonel Langevin

The Italian air maneuvers of August 1931, seemed to have excited a number of civil and military authorities in France and led them to believe that the time had come to concentrate all effort and expense on the development of an enormous air force with the resultant weakening of the other military arms. The underlying motive of this desire is to carry warfare to other countries, rather than to be always the victim of invasion.

The Italian maneuvers were a set-up for the offensive air force; the defensive air force, north of the Apenines, could do little against the offensive air force south of these mountains, since the former was made much weaker in the set-up of the maneuver situation. In four days, the defender sought an armistice.

The author then proceeds to analyze this operation, and shows how difficult it would be to actually break up a mobilization of the opponents' forces by offensive air action.

He then proceeds to show by figures how utterly unreasonable it would be from a financial point of view to keep up an enormous air force in peace time. Again the wear and tear on matériel would be beyond all reason.

He says, "No country, in our opinion, is capable of forming and maintaining in peace an offensive fleet of a thousand bombardment planes of great tonnage unless it be to the essential detriment of other elements of national defense."

While in a present day war the airplane would have a greater preponderance in wearing down the enemy than it had in the World War, still it would by no means be "the whole show."

And he concludes, "the all-important business is not to win the first day of the war; the last day is what must be won at all costs."

(7) LA LUTTE POUR L'HARTMANNSWILLERKOPF. [The battle for Hartmannswillerkopf.] (III) Chef d'escadron Dupuy

This article is continued from the June and July numbers. This operation was envisaged by General Dubail, commanding the Group of Armies of the East in May 1915, and was answered by letter from General Joffre in August 1915.

In September, General Dubail sent a more specific plan of operations to GHQ. From this time on, there was voluminous correspondence between GHQ and the Army Group. The most interesting thing about the operation is that the final order was not issued by the Seventh Army until the lowest tac-

tical units, that is the regiments and battalions had been consulted and had submitted plans in the greatest detail.

The attack was ordered for the 21st December and was to be participated in by the 81st Brigade (66th Division, Seventh Army) and the 6th Brigade of Chasseurs.

Great quantities of artillery were moved in. The attack was on a narrow front with a limited objective and was in every sense of the word a trench warfare operation.

The author apparently quotes every order that was ever written in connection with the preparation of this operation, and from a trench warfare angle these orders are of interest. (To be continued)

(8) L'INFANTERIE EN PRÉSENCE DU PROBLÈME OFFENSIF. [Infantry and the problem of the offensive.] Chef de bataillon Baurès

Major Baures introduces his subject by saying: "Is there necessity for completing the armament of the infantry, in order to facilitate its job on the offensive?"

"Such is the question we study in this paper. The solution we offer takes account of the useful effects pertaining especially to curved fire matériel; moreover, it appears calculated to bridge, or at least to reduce the gaps, which at any given instant are likely to occur in the system of cooperation of the artillery with the infantry."

Then follow quotations from Marshal Foch showing that the destruction of the enemy forces, obtained only by combat, is the sole argument for war. And further references to Foch's writings show that the defensive, no matter how skillfully conducted, must eventuate in the offensive in order to obtain decisive results.

The author then discusses the French regulations pertaining to the offensive action in meeting engagements and the offensive action that initiated from a stabilized front, showing that, while successive impulses of attack are characteristic of both types of action, nevertheless the offensive from stabilization requires more time due to more careful preparation of details and the bringing up of more fire power.

The critical period, so he feels, is when two forces are about 1200 yards from each other, for it is only then that the automatic arms of the opposing infantry forces come into play. Until that time, the artillery and the accidents of the terrain enable the infantry very often to advance without engaging its own weapons, but within the 1200 yard zone all its own devices must thenceforth come into play. Plans for breaking down the hostile position must be prepared. The infantry must advance, and at the same time must neutralize hostile fire power with its own immediate weapons in addition to the artillery. The attacker must advance toward his objective in order to occupy the enemy position, but the attacker must also adjust his fire on this enemy to neutralize him; this latter condition will necessitate the attacker stopping his advance and seeking protection by digging in. Thus we find a contradictory state of affairs. "We will study the solutions recommended, that is to say the means of getting around this difficult contradiction, and we will indicate what to our belief, will give us the chance of escaping technically and tactically from such an impasse."

An example is then given of an attack by the 122d Division in Macedonia in 1918. The country was very mountainous and observation extremely limited. The first objective of the attack was a crest which could be seen from the French line of departure and for the assault of which carefully prepared plans were made by the infantry and the artillery. Beyond the crest was the ultimate objective, 1200 yards in depth. Due to lack of observation and information, no plans could be worked out in advance for this latter zone. Consequently the same thing happened as in so many similar attacks; the infantry properly supported by artillery carried the first crest; then the infantry tried to advance alone by infiltration with no artillery support. The result was the usual failure, until artillery could be advanced and the attack renewed. The operation showed that the accompanying fire weapons of the infantry, including grenades which were extensively used, were not sufficient unto themselves for the

infantry to advance without proper artillery support. So, says the author, "It is fitting to find out, whether we now have in our more up-to-date army, the organic means for coping with similar difficulties."

He then continues with his thesis, showing how the infantry is still unable to work alone without its artillery support. Fire and movement are the infantry tactics and to effect this properly the infantry must have the maximum of matériel and the minimum of men in the front line of the attack. But the trouble with the infantry weapons, except the mortars of which there are only six per regiment, is that they have a flat trajectory which is little capable of fire maneuver. On the contrary, the artillery fire can be maneuvered anywhere along the front. However, the same old weakness is to be found as the attack progresses, viz., the breaking down of artillery-infantry liaison. Hence some form of accompanying artillery is necessary.

Means therefore must be perfected to give the infantry itself more powerful armament and greater means of protection. This will increase the far limit of the zones of contact, i.e., greater than the 1200 yards which the author assumes is the present average distance between lines of contact.

As to the question of tanks, he feels they are most satifactory except that they in turn will be countered by enemy tanks. The artillery can't be turned against such targets for two reasons: first, all artillery will be needed to keep down the fire of hostile automatic weapons directly in front of our infantry attack; and second, hostile tanks will appear too unexpectedly for our artillery to fire at them.

It would appear that the infantry has the most effective artillery weapon of accompaniment in the new mortar, the 81-mm. Stokes-Brandt, and this with its curved trajectory, maneuverability of fire, and increased ranges would seem to furnish some of the greater fire power which the infantry so sorely needs in its own front lines to bolster up its offensive force.

In conclusion the author says: "It is time to end this discussion; because, not desiring to write an essay on the reorganization of the infantry, which would be the logical result of this study, it is enough to invite attention to the stages of reasoning we have gone through.

"We have, in short, established the fact of our lack of means of matériel to maintain the offensive in the zone of contact as soon as the attacking infantry reaches the point where it is desirous of driving home the decisive blow.

"During the War, we sought a method of arriving at a continuity of offensive effort by exclusive use of the artillery-infantry combination.

"The results were excellent, but they have their limitations, and no more can be demanded of this combination than it has ability to give. But, it is a fact shown by experience, that this procedure is not sufficient to completely accomplish the job demanded of the offensive.

"Looking at this more closely, we see that, at a given moment, the whole question turns on the potential offensive power of the line of combat which is in great measure furnished by the infantry. To this line of combat must be given means appropriate to maintain the offensive. Meanwhile, there must be settled in detail those problems of supply in the attack, which up to now have consisted largely of premises.

"The solution recommended in this study * * * takes account essentially of the existing cadre with which we must deal.

"* * * It appears in some way that the modern infantry must be rounded out to fulfill the jobs required of it.

"* * * The grenade thrower maneuvers with curved trajectory fire, the rifleman makes use of flat trajectory fire; each one fighting, advancing in the attack or hugging the earth in the defense, each one indispensable to the common cause.

"This conception might lead us to expect the impossible, especially from the supply viewpoint, if, paralleling the demand for more powerful armament, the technical services did not give us means of transport that are sufficiently mobile. The supply of infantry in combat has never received a serious solution until now. It is necessary to meet it as it arises. Only recently

little tractor tread automotive vehicles, with light armor appeared at the British maneuvers, which seemed to give a definite solution along supply lines.

"Inevitably, the infantry will appear under a new guise considerably different from its predecessor. But it must be more harmoniously balanced to play, and play completely from now on, the role which belongs to it in the ensemble of the arms. To the infantry is the responsible role of the decisive action for the success of the offensive. Hence the need of insisting that the infantry should be equipped with all the technical means necessary for the offensive."

(9) COMPRENDRE. [Understanding.] (VII) Capitaine Carrias

A continuation of articles appearing in the February, May, and July numbers.

The author analyses what should have been the actions and orders of the G-2 Section of the IV Corps during the period from August 7-22, 1914. This period begins with the march of this corps, as part of the Fourth French Army, against the Fifth German Army (Crown Prince) and ends with the battle of Ethe-Virton. The article is most detailed, is accompanied by excellent maps, and is of great value to anyone interested in the highly important labors of the G-2 Section.

(10) FLAUCOURT. [Flaucourt.] (IV) (The penetration of the German lines in July 1916, south of the Somme.) Général Abadie

Another article on another trench warfare operation, giving the preliminary details, the composition of the units, and the allotment of the reinforcing artillery, the latter even to the number of batteries.

The author has an illuminating thought on "Liaison" which is well worth quoting. He writes: "Any personal liaison which a commander may hope to accomplish, by himself going out to get information on a particular situation, is, I believe, something we must consider as exceptional during the course of an action.

"Before the opening up of the fight, the personal contacts between commanders and subordinates must be as frequent as possible: they permit the commander to better fix his thoughts in view of the remarks or objections which he hears from his subordinates, to firmly establish all the details of execution which must be enunciated, to assure the completion of the preparation and the full accord on the methods of execution, and to proceed with a profound examination of suggested hypotheses.

"During the fight, on the other hand, the commander must remain at his command post; it is there that he is best situated to quickly receive all the information, to make decisions and to give orders to his subordinates. It is indispensable that at the headquarters of the division and lower units, the commander be found at any moment, to settle during the course of any deliberation, the urgent matters which are continually coming up. With the headquarters higher than the division, where all provisions are made sufficiently far in advance, the commander preserves a relative freedom of movement, and he may absent himself for brief periods to visit a subordinate. Even then, these absences must be brief, because, in battle, very short are the periods which pass without the necessity of the commander making a decision. Undoubtedly the best place for this purpose is the command post which has been organized and equipped accordingly."

September 1932

BY MAJOR W.H. HAISLIP

(11) LE BUT DES OPÉRATIONS DE GUERRE. [The purpose of military operations.] (I) Général Brossé

This is the first installment of a continued article. The author states that the European theory of war in 1914 came directly from a maxim of Napoleon: "The purpose of military operations is to destroy the organized forces of the enemy." From this basic maxim certain corollaries were deduced: (1) the supreme argument is the decisive battle and all maneuver should be towards that end; (2) with the enemy forces defeated, territories and cities fall of themselves; (3) the mere possession of territory is of no importance; (4) a geographic objective should never be sought as nothing is decided except by force of arms; (5) every operation looking to a

political or economic result is bound to fail.

On these bases the author discusses the events of the World War from 1914 to include the Franco-British attacks of 1917 where the installment ends.

The author believes that the enveloping maneuver of the Germans through Belgium carried out the basic maxim but that the French project to rupture the German front in the Ardennes could not have led to a decision as it was a dispersion of force and sought a geographic objective. He compares the correct action of the French in willingly ceding territory in the face of the German advance in order to regroup their forces and seek a decision with the unwillingness of the Germans to give up even a small part of East Prussia, as evidenced by their diversion to East Prussia of two army corps from their decisive enveloping maneuver.

He claims that after the German advance was definitely stopped, they could have remedied the situation had they been true to the principles they had proclaimed. They could have executed an extensive withdrawal, regrouped their forces, again advanced, and sought a decisive battle. The race to the sea was another example of failure to follow principles as it merely sought a geographic objective, the gaining of the French northern provinces and ports.

He feels that trench warfare resulted from the weakness of the German high command and its failure to adhere to the principles with which the entire German army was imbued.

The author discusses the indecisive actions that followed up to include the Franco-British attacks of 1917. He blames the indecisive results on poor execution generally, rather than on poor conception. Shortage of munitions on both sides was responsible for much of the inaction of those years.

(12) LA LUTTE POUR L'HARTMANNSWILLERKOPF. [The battle for Hartmannswillerkopf.] (IV) Chef d'escadron Dupuy

This is the fourth installment of a continued article. This installment describes the action principally of the infantry and is of interest in that it goes into the actions of companies and battalions. German sources are quoted and the reader gets the reactions of both opponents. The entire article should be of value in the study of combat in mountainous terrain. In this area trench warfare was highly developed at the period of the attack described.

(13) RÉFLEXIONS SUR L'ORGANISATION DES COMMUNICATIONS ET RAVITAILLEMENTS AUX ARMÉES. [Thoughts on the organization of the communications and supply of an army.] Chef de bataillon Albord

The article is based on the present French regulations governing the organization of the communications and supply of an army. The author believes that the present regulations result from the confusion existing at the close of the War. At the beginning of the World War the French army was organized for open warfare. Trench warfare with its demand for enormous amounts of materials and munitions developed the heavy and complete organization of army rear areas. He believes that the War ended on the verge of the resumption of open warfare where the trench warfare system of supply and evacuation would have fallen down. The different maneuvers generally seek the disruption of rear areas of the enemy. Up to the present such maneuvers have been envelopments or penetrations. Now, however, with the increased range of artillery and especially of aviation, these two factors permit an attack, immediate and direct, on enemy rear areas. The progress in the development of motor vehicles permits a radius of action far greater than was known during the War, and this radius will introduce important changes in the appearance of operations. Space again has become available for maneuvers that will lead to important or vital points of the enemy organization.

The author insists that in the future enemy rear establishments must not be considered as an objective nor should his own establishments affect the decision of a commander nor limit his freedom of action. While, under the present system, attacking troops are not put into position until the last moment, the enormous and numer-

ous establishments set up in rear write on the ground the intentions of the attacker. This system must be changed and the best way to do it is not to build up rear areas as formerly. If the rear areas are to disappear, a system must be devised whereby (1) rations, ammunition, gas, and oil will continually flow towards the front according to the daily needs of the troops; (2) nothing will be repaired but will be replaced; (3) sick and wounded men and animals will receive absolutely unavoidable treatment only and evacuation will be organized on a massive scale; (4) for aviation, there will be no new construction of airdromes. The supply services will, then, (1) in the offensive, neither precede nor follow the troops but will move with the army and be ready to function with the commencement of combat; (2) in the defensive, while assuring adequate supply and evacuation, be prepared to cease functioning almost instantly and be ready to take the lead in any retirement; (3) be able to carry out their functions without any material modifications in either open or stabilized warfare. The new characteristics of supply will be flexibility, mobility, and homogeniety.

The author's solution assumes that the theater of war will be in western Europe with its remarkable system of roads and railroads. A brief description of his plan follows.

Army depots are abolished. All establishments are grouped into a maintenance or regulating base which, for safety, is placed at such a distance from the front as to make it independent of changes at the front. This distance he places at a minimum of 150 kilometers. With the army is left only those units charged with the reception and distribution of supplies received from the rear. Those units engaged in repair or in the supply of heavy matériel (the industrials, as he calls them) would be located at the Regulating Base. This base is directly under General Headquarters and is organized to serve one army or, eventually, two. It is defended by antiaircraft artillery, pursuit aviation and motorized detachments. Communication between the base and the army is essentially by rail. General Headquarters establishes credits on various depots to the Commanding Officer of the base sufficient to satisfy the needs of the army being served. Supplies arrive at the base in accordance with a controlled schedule and are forwarded to the army by the base commander. The actual making up of the trains and their dispatch is a function of the Regulating Station which is a part of the base. Under the proposed organization the Regulating Station has but one role—transportation.

The Regulating Base is composed of repair and maintenance establishments, depots, hospital centers, pools of personnel of the supply services, reserve equipment for emergency needs, and the Regulating Station. The repair and maintenance establishments will have repair shops and depots for the repair and replacement of: all artillery matériel, all motor equipment, all animal-drawn vehicles and equipment, all infantry weapons, tanks, aviation matériel, except complete airplanes, and miscellaneous equipment such as gas masks, photographic supplies and signal supplies. Only minor repairs will be made at the base. Major repairs will be made in the Zone of the Interior. For its repair work the author visualizes the Regulating Base making full use of industrial plants with civilian workmen. The depots of the base would contain reserve stocks only. Pools of personnel for all the services are established at the base as well as reserves of equipment for their use. The personnel pool will furnish trained specialists for the echelons between the Regulating Base and the troops. The pool will contain ammunition detachments, quartermaster detachments, medical detachments, etc.

The general functioning of supply and evacuation is explained as follows:

Artillery ammunition.—Type trains are sent to the refilling points of the army. In addition there are maintained rolling reserves held on sidings in the Regulating Base area. In special cases depots may be established in the army rear areas but their stocks should never exceed two or three days of fire. The personnel necessary at the refilling

points is obtained from the pool at the base sent beforehand by rail. The type trains also include infantry ammunition. Unserviceable artillery matériel is sent to the base by rail in returning trains. It is immediately replaced from reserve stocks.

Gas and oil.—Gas and oil are sent forward by rail and stations are opened near railheads, the personnel necessary for their operation being drawn from the pool maintained at the Regulating Base.

Engineer material.—The army engineer depot is maintained as at present except that no stocks of material for organization of the ground are maintained. Water supply units, electric power supply units, forestry and road maintenance units are held in reserve at the Regulating Base and are sent by rail to points where they are needed.

Rations and clothing.—Army clothing depots are abolished. Supply of rations and clothing is made directly from the Regulating Base to railheads.

The remount service and the pay and postal services are retained without change.

Evacuation.

The author discusses in detail his plan for the evacuation of wounded. Evacuation must be speeded up and evacuation units made highly mobile. Evacuation hospitals are abolished and are replaced by light mobile units. The division hospital station is retained as at present except that all evacuations from it will be by motor vehicles. The present organic medical units of the army corps are placed organically under the army which, in principle, will establish a like group of medical units in rear of each corps engaged. It is this latter group operating directly under the army, that will classify the wounded and evacuate them. Those cases classified as non-transportable will be sent to the rear in plane ambulances, all others by hospital trains. In this way the non-transportable cases will be reduced to a minimum due to the speed and comfort with which they can be placed in hospital. In case of a rapid advance of the army, groups in reserve at the Regulating Base or from the General Headquarters reserve can be established forward without causing any delay in the flow of evacuations. There will be no hospitalization of animals in the zone of the army. All will be evacuated by rail to hospitals in the Zone of the Interior.

The maneuver of air forces consists in offensive action and in order to obtain surprise there must be no construction of hangars or landing fields. Existing military and commercial airdromes must be used. Large aviation units must be given organic transport airplanes to permit the carrying of mechanics. The army air depot and repair shops are abolished and the repair facilities of aviation units are greatly reduced. All repairs are made either in the shops of the Regulating Base or in the Zone of the Interior.

The author admits that his organization depends on a highly developed system of railways, but contends that modern armies under their present organization cannot advance without railroads. His Regulating Base is too immobile to permit its being moved. In the event of an enemy retirement accompanied by destruction of railroads, the author visualizes the establishment of an advanced section of the Regulating Base disposing of a large number of motor transport units. With supply and evacuation reduced to an essential minimum, he believes that the army can be supplied during the period necessary for the repair of the rail lines—and more efficiently than under the present supply organization.

In conclusion, the author believes that the next war will be one of movement; that his proposed organization takes into consideration and makes use of the increased effective radius of motors, railroads, and airplanes. Strong emphasis is placed on intensive evacuation and on the prohibition of repairs in the army area. He admits that he has not solved the problem but hopes to start a discussion.

(14) Le Gouvernement de Défense Nationale. [Government and national defense.] Lieut.-colonel Guigues

This is a continuation of a series dealing with the military situation of France in 1870-71 particularly with the reorganization following

the Battle of Coulmiers and with the siege of Paris.

(15) LE MARÉCHAL DE MONLUC. [Marshal de Monluc.] (I) Général de Fonclare

This is the first installment of a continued article giving extracts from a book soon to appear on the life of Marechal de Monluc. This article deals with two offensive operations in which the Marshal has a part; the Battle of Cerisoles (1544) and the Siege of Thionville (1558).

53—ROYAL AIR FORCE QUARTERLY (Great Britain)

October 1932

(1) THE INFLUENCE OF GEOGRAPHY ON HISTORY. Flight-Lieutenant Walker

(2) THE PRINCIPLES OF WAR IN THE ROYAL AIR FORCE: MOBILITY. Squadron-Leader Howard-Williams

(3) LEADERSHIP. Squadron-Leader Howard-Williams

(4) FLYING BOATS IN PEACE AND WAR. Wing-Commander Bayley

(5) THE FIRST WAR DIRIGIBLE. Gribble

(6) A CAVALRY RECONNAISSANCE. Flight-Lieutenant Savile

(7) THE ARMAMENT OF SINGLE-SEATER FIGHTERS. Wing-Commander Andrews

(8) IS A SPECIAL TYPE OF LOW-FLYING UNIT NECESSARY? Flight-Lieutenant Yool

54—ROYAL ENGINEERS JOURNAL (Great Britain)

December 1932

(1) SOME ASPECTS OF THE SHANGHAI EMERGENCY, 1932. Major Mason

(2) HISTORY OF THE 7TH FIELD COMPANY, R.E., DURING THE WAR, 1914-1918. Captain Baker

(3) THE ALCANTARA BRIDGE (1812). Colonel Chenevix-Trench

(4) MECHANIZATION AND DIVISIONAL ENGINEERS. Lieut.-Colonel Martel

(5) ENGINEER RE-ORGANIZATION IN INDIA. Captain Harrison

(6) BARA BRIDGE RECONSTRUCTION. Lieutenant Henniker

55—ROYAL TANK CORPS JOURNAL (Great Britain)

October 1932

(1) HISTORY OF THE 13TH TANK BATTALION. Major Maurice

November 1932

(2) ELECTRIFIED WARFARE. Major-General Fuller

(3) THE TANKS AT CAMBRAI

(4) LECTURES ON F.S.R. III—OPERATIONS BETWEEN MECHANIZED FORCES. Major-General Fuller

December 1932

(5) THE AMPHIBIOUS TANK IN WAR. Lieutenant Winberg

56—SIGNAL CORPS BULLETIN

July-August 1932

(1) NEW SYSTEM OF MAP REFERENCES. Major Kirby

(2) REORGANIZATION OF COMMUNICATION PERSONNEL WITHIN THE DIVISION. Major Hardie

September-October 1932

(3) COMMAND AND SIGNAL COMMUNICATION TO AND WITHIN MECHANIZED UNITS. Major Ingles

(4) SIGNAL COMMUNICATION FOR AN AIR FORCE. Captain Borden

November-December 1932

(5) THE SIGNAL CORPS AND THE CHEMICAL WARFARE SERVICE. Lieutenant Hankins

59—WISSEN UND WEHR (Germany)

BY MAJOR A. VOLLMER

September 1932

(1) GEDANKEN ÜBER MILITÄRISCHES FÜHRERTUM. [Thoughts on military leadership.] Generalleutnant v.Cochenhausen (See translation, page 96)

(2) WEHRPOLITISCHE GEDANKEN ÜBER BELGIEN. [Belgian national defense.]

(3) ITALIENS EINTRITT IN DEN KRIEG. [Italy's entry into the war.] (I) Oberarchivrat Frantz

(4) RUSZLANDS WIRTSCHAFTLICHE KRIEGSBEREITSCHAFT BEI AUSBRUCH DES WELTKRIEGES. [Russia's industrial preparedness at the outbreak of the World War.] Dr. Pantlen

October 1932

(5) ENGLANDS KAMPF UM INDIEN. [England's battle for India.]

(6) ITALIENS EINTRITT IN DEN KRIEG. [Italy's entry into the War.] (II) Oberarchivrat Frantz

(7) GEDANKEN ZUR MILITARISCHEN JUGENDAUSBILDUNG IM AUSLAND. [Thoughts on the military training of youths in foreign countries.] Hauptmann Speidel

(8) WEHRFRAGEN IN SKANDINAVIEN. [National defense in Scandinavia.] Hauptmann Krebs

(9) DIE DEUTSCHE KRIEGSERNÄHRUNGSWIRTSCHAFT 1914-1918. [The German subsistence industry in the World War.] Pieszczek

A review of book by that name by Dr. Aug. Skalweit, published in 1927 in the German series of publications by the Division of Economics and History of the Carnegie Endowment for International Peace.

November 1932

(10) DER OSTASIATISCHE KONFLIKT UND DIE MÄCHTE. [The Asian conflict and the Powers.] Hoffmann

(11) ITALIENS EINTRITT IN DER KRIEG. [Italy's entry into the War.] (III) Oberarchivrat Frantz

(12) DER GROSZSCHIFFAHRTSWEG RHEIN-MAIN-DONAU UND DIE GROSZDEUTSCHE WIRTSCHAFT. [The waterway for great ships—Rhine, Maine, Danube — and German industry.] Hoszbach

(13) MILITÄRISCHE AUSBILDUNG DER BEVÖLKERUNG AUSZERHALF DES HEERES IN POLEN. [Military training outside of the army in Poland.]

(14) PROBLEME DER TSCHECHOSLOWAKISCHEN KAVALLERIE. [Problems of Czechoslovakian cavalry.]

60—REVISTA DEL EJERCITO Y DE LA MARINE (Mexico)

BY CAPTAIN W.F. SAFFORD

September 1932

(1) EL RÉGIMEN INSTITUCIONAL ES YA UNA REALIDAD. [The institutional regime is now a reality.] Comments on the recent political crisis in Mexico.

(2) LA INSTRUCCIÓN CIVIL EN EL EJÉRCITO. [Civil instruction in the Army.]

(a) Considerations of the plan of reorganization of military education, with respect to the civil instruction of the soldier; (b) Necessity of civil instruction in the army; (c) The moral, social and military ends that will be reached by instruction in citizenship. In all Latin-American countries the instruction in citizenship by the army plays an important part in the education of the soldier. In the U.S. some attention was paid to this during the World War and some is now being given in the C.M.T. Camps. While such instruction is important, the problems of Latin-American countries are quite distinct from those of the U.S.

(3) LA ACADEMIA FRANCESA, LA CIENCIA DE LA GUERRA Y EL GENERAL WEYGAND. [The French Academy, the science of war and General Weygand, general-in-chief of the French Army.] Coronel Alamillo Flores, General Staff, Director of the "Escuela Superior de Guerra"

Beginning with a brief history of "l'Académie Francaise," the author remarks on its refusal to authorize a chair of military science, when proposed by Napoleon III, and quotes the comments of Commandante Villarmartin (Spain). At that time the Academy claimed that war was not a science. Marshal Joffre was made a member, as was also Marshal Foch, when the Academy finally decided that war was, after all, a science. The latter was succeeded by Petain and the former by Gen. Weygand. This recent promotion inspired the brief resumé of Weygand's military history.

(4) EL INFANTE DE NUESTROS DIAS Y SU ARMAMENTO. [The infantryman of our days and his armament.] Capitan Beristain

A very good article, illustrated with photographs, but which contains nothing new that is not already taught in our branch schools and in our regiments.

(5) FUNCIONAMIENTO DEL SERVICIO DE INTENDENCIA EN CAMPANA. [Functioning of the Quartermaster Service in campaign.] A review of an article from "L'Illustration" (1917) based on the French experiences during the World War.

(6) EL EJÉRCITO MEXICA. [The ancient Mexican Army.] Capitán Luis Rivas

The second and concluding article on an Aztec campaign (1458).

(7) HISTORIA NAVAL MILITAR. [Military naval history.] Capitán Vazquez del Mercado

The present article deals with what is known of the maritime activity of the ancient races and with the explorations of the Conquistadores.

(8) EL PROBLEMA DE LA SEGURIDAD Y LA REDUCCIÓN DE LOS ARMAMENTOS EN LA SOCIEDAD DE LAS NACIONES. [The problem of security and arms reduction in the League of Nations.] General Debeney, ex-Chief of General Staff, French Army

The second and concluding article of the series giving a brief account

of discussions and, naturally, the French point of view.

(9) La Participación de los Estudos Unidos en la Gran Guerra. [The participation of the United States in the Great War.] Mayor Willoughby

Second installment of a series presenting the part played by the United States in the World War.

(10) Un Poco de Historia Alrededor de un Conflicto Internacional. [A little history about an international conflict.]

The Gran Chaco, originally part of the Empire of the Incas, has always been disputed territory. The part being disputed now is "el Chaco Boreal," belonging to Paraguay but claimed by Bolivia. Historically the Bolivian claim is flimsy but sufficient pretext for the eternal endeavor to gain a "corridor" to the Atlantic.

(11) La Función Social del Ejército en la Republica de Guatemala. [The social function of the Army in Guatemala.] Coronel Beteta

Another article on a problem so important for Central and South American countries where the mass of the conscripts are Indians; and civilization is taught in barracks.

(12) El Conflicto Chino-Japones. [The Chino-Japanese conflict.] Capitán Galvan Cantu

Summary of Chinese and Japanese relations since 1894 and history of each country since that time.

(13) Movilizacion Industrial. [Industrial mobilization.] Teniente Corl. Reboul

Installment of a series translated from the French covering the industrial mobilization during the World War to produce arms, equipment, etc., in France.

(14) El Centro de Gravedad del Ataque en la Guerra de Montana. [The center of gravity of the attack in mountain warfare.] Capitán de Altrichter

Before the World War the general belief was that it was necessary to take the heights dominating the valley. Some authorities, however, maintained that this was not obligatory and that the main effort should be in the valley. A survey of three historical examples, from the World War, of major attacks under distinctly different circumstances, demonstrates that no scheme fits all cases. Each situation must be decided as a distinct case. Two things, however, are common to any scheme: the absolute necessity of neutralizing fire from the heights and the element of surprise.

(15) Organizacion del Ejército Peruano. [Organization of the Peruvian Army.] Outline of the organization of the Peruvian Army.

(16) La Infantería Suiza. [The Swiss infantry.]

85—FOREIGN AFFAIRS

January 1933

(1) The permanent bases of Japanese foreign policy. Viscount Kikujiro Ishii

(2) The armaments and military power of Germany. General Réquin

(3) France and gold. Reynaud

(4) The unknown frontier of Manchuria. Lattimore

86—FOREIGN POLICY ASSOCIATION: FOREIGN POLICY REPORTS

28 September 1932

(1) The inter-Allied debt: an analysis. Stewart

12 October 1932

(2) The State of Iraq: a mandate attains independence. Williams

26 October 1932

(3) The rise of Fascism in Japan. Bisson

9 November 1932

(4) International action on the Lytton Report. Buell

23 November 1932

(5) The Lausanne Reparation Settlement. Wertheimer

102—POLITICAL SCIENCE QUARTERLY

December 1932

(1) The early development of the law of contraband of war. (I) Jessup & Deak

(2) The good offices of the United States during the Sino-Japanese War. Treat

Section 3

ABSTRACTS OF FOREIGN-LANGUAGE ARTICLES

EXPLANATION

The entries from foreign-language periodicals in the Catalog of Selected Periodical Articles (Section 2) include concise digests of the articles. Section 3, within the limitations of available facilities, translates in full or abstracts a few of the more important of such articles.

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Combined Operations*

["OPERACIONES COMBINADAS"—TACTICAL AND STRATEGICAL DETAILS OF OVERSEAS EXPEDITIONS.—By Captain Jacinto R. Yaben—Revista Militar, June, July 1931.]

Abstracted by Captain W. F. Safford

1. *Influence of the Factor of Surprise on Joint Operations*

With respect to the advantage of surprise, Captain Pye, U. S. Navy, says: "In no class of operations is the principle of surprise so important as in combined operations. If troops can be disembarked with little or no resistance by the enemy the success of the expedition should be assured. In calculating forces necessary, an ample margin must be allowed for losses during the landing and losses in transit. If the force is landed without opposition this margin will then be available for the land operations. The morale of the troops will not suffer as when the landing is tenaciously resisted by the enemy.

"Surprise may be gained by: (1) Keeping the expedition secret, (2) deceiving the enemy as to the objective, (3) by rapidity in preparation and execution.

*This article is one of a series appearing in the following numbers of the QRML: Nos. 44, 45, & 46.

"Modern means of transmission of information make it virtually impossible to keep the preparation of an expedition secret. Even in the days before the cable and radio the preparation of large expeditions usually became known to the enemy."

The advent of aviation has increased the difficulty of maintaining secrecy in the operations. In the case of the capture of the Baltic Islands it was not possible to prevent the enemy from having knowledge that an expedition was being prepared. The Germans therefore, resorted to the stratagem of deceiving the Russians by directing their attention to Pernau and other places in the Gulf of Riga by means of aerial exploration over these points. Meanwhile German submarines were reconnoitering Tagga Bay to spot the locations of batteries and to determine the most appropriate places to land.

The surprise obtained at some points on the southwest coast of the peninsula of Gallipoli favored the English in the landing of 25 April, 1915. This (surprise) was secured because the points were not suitable for an operation of this nature and where General von Sanders had considered it very improbable that the Allies would attempt to land.

Lack of absolute secrecy in combined operations is not an entirely new subject and need not alarm us; other epochs had similar occurrences. The British naval force blockading Toulon knew that the French fleet was being prepared for departure, especially when Bonaparte was preparing his immortal Egyptian campaign. But Nelson, who commanded the blockading forces, never suspected the destination of the expedition. Similarly, when Prince William of Orange was preparing his expedition in Holland against England, King James II knew of the preparations. Because of poor calculation of the possible point of disembarkation he distributed the English forces in such a way that the Dutch troops landed without great difficulty.

General Cole, U. S. Marine Corps, says, "In an overseas expedition surprise is a factor of maximum importance since a landing in force against prepared positions stubbornly defended is a desperate task if not impossible."

2. *Prepartion of the Forces to Participate in a Joint Expedition*

A maritime expedtion should be prepared by taking into account all information gathered by the services of the respective staffs. From the careful study of this information will result the selection of the most convenient place for landing; the importance and composition of military, naval, and air forces to be employed; ports of embarkation, etc.

The real problem for the commander of the land forces will begin when his troops start to disembark, although for the naval commander it will begin with the selection of the ships which will participate. It will be the function of the Navy to maintain the maritime lines of communications; not only until the landing begins but also afterwards while necessary for the transportation of reinforcements, materials and food supplies to the theater of war in order to assure the uninterrupted functioning of this service. We know that supply is a question of ever increasing preponderance in modern warfare.

After deciding the composition of the military, naval and aerial forces for the operation, the most appropriate equipment for the campaign should be determined. All information available of the theater where the operation will take place should be consulted and decision made as to the necessary provisions to best discharge the task of the expeditionary force.

The selection of military and aerial forces should always be for their efficiency and for adaptability in the task to be performed. These qualities are paramount. The military force must make a sea voyage to arrive at the zone where it will operate. It will usually have to engage the enemy in combat immediately that it starts to land. This battle will, in many cases, be of a decisive nature. With raw or inefficient troops the all-important initial success cannot be obtained. Troops should be well trained in embarking and disembarking and in tactics so as to approach the mission with the best possible preparation. As soon as the various elements of the enterprise are assembled they

will be practised in exercises of embarkation and disembarkation, approximating as nearly as possible the actual situation. A high degree of training was reached by the German elements in preparation for the capture of the Baltic Islands. General Faupel says, "At last, 8 October, only 20 days after the first order for the preparation of the enterprise, the order to embark could be given. The time lost by the mine sweepers had been well utilized. By means of many exercises in embarking and disembarking the troops were so skilled in this class of maneuvers that two days after the definite order to embark had been given all was ready for the movement."

Captain Pye says, "The expeditionary force should be organized in small divisions each of which will include all arms in convenient proportions."

In the Japanese Army there were organized small groups consisting of forces of all arms for use in combined operations. This flexible organization answers the necessities demanded by an undertaking of this kind; it is in perfect harmony with the principle of "la liaison des armes." It also insures that in case a ship is sunk or delayed a serious reverse will not be imposed on the rest of the expedition.

Having fixed upon the military forces, the means of transportation will be determined. These will be of three types: maritime, terrestrial, and aerial. The first to carry the force to the zone of operations and the last two to be used after arrival there.

The first point to consider is the tonnage of each ship, considering also: radius of action, speed, kind of fuel, provision for fresh water, number of small boats, draught, facilities for officers and men, etc. The general staff will fix the tonnage, weight and capacity required by the personnel and matériel to be transported. The Navy will then determine the ships which can be used to transport this force. The proper branch of the general staff will study the characteristics of the boats proposed and will assign military units and impedimenta to each ship. This plan, prepared in anticipation, may have to be modifield later, but it is better than not having any plan and attempting to improvise as the work proceeds.

General Faupel observes, "It is recommended for a short voyage of but a few hundreds of miles, that boats of medium size be used. Somewhat smaller ships may get nearer the coast, thus reducing the distance for the embarking boats and with it the total time for the maneuver. Another advantage is that the loss of one or several ships (of small tonnage) has not such serious consequences."

The naval authorities should also calculate the naval forces required for the security of the convoy in its crossing to the zone of operations, during the disembarkation, and, after that, to assure the prosecution of the campaign. The Navy will fix the proportion of destroyers, tugs, special ships, small boats, etc., to be used for landing in accordance with the plans prepared by the Army and Navy for the different echelons. In this it must be borne in mind that many small boats may be damaged or destroyed by enemy fire.

Excellent results were obtained by the English in the Dardanelles with large motor launches with a capacity of 300 men. In the Bay of Suvla the English made good use of destroyers for setting troops on shore.

General Faupel, speaking of the Baltic Islands, says: "In the attack against Oesel Island some units of infantry and cyclists, to a total of about 5000 men, were transported on battleships and torpedo boats, which is an exceptional case.

"Such a proceeding is justified only in transports of short duration and when it is presumed beforehand that there will be no encounter with hostile naval forces."

Captain Pye says: "Since navies are maintained in a mobilized state the purely naval element will, as a rule, be concentrated without the necessity of putting more warships in service. However, in case it should be necessary to fight a naval force of greater strength it would be necessary for the Navy to arm many more warships."

If superiority at sea has been attained prior to the beginning of the movement the naval escort will be such as to protect the convoy against audacious attacks. If there is the possibility of enemy naval action the kinds of ships required for the protection of the convoy must be considered.

The naval protection must be sufficiently strong, not only while the crossing is being made, but in the task of disembarkation.

The plan of campaign may require a movement of the Navy prior to that of the Army. The ships of the naval force must therefore be completely ready before the transports. Although both the Army and Navy have some transports, these will not be sufficient in time of war. To meet this deficiency the necessary ships must be requisitioned from the merchant marine for the transportation of troops. In major expeditions ships of large tonnage are more advantageous and more economical, since the number of ships to be used and the necessary crews and fuel are reduced. On the other hand, large transports may be less convenient in many cases because their deep draught prevents approaching the beach too closely, and disembarkation of troops and material must necessarily be slower.

As has already been mentioned, ships of less tonnage permit more flexibility in the distribution of forces, and the loss of any unit will be of less importance.

In any case, the efficient transformation of all merchant ships should be planned in time of peace so that it may be effected as soon as possible after it is certain that they will be used. Merchant ships will also be used as fuel and supply ships.

Replacements should be prepared to cover the losses of the assault troops, which may be very great. Foresight in the matter of reinforcements and maintenance of supply is an important section of the plan. Logically the naval material for transportation and escort for reinforcements and supplies must be considered in this plan. The forces for replacements should be ready as nearly the time of disembarkation of the first echelon as possible.

General Faupel says, in his lecture on the taking of the Baltic Islands, "It is indispensable to carry the largest possible number of small boats. The more rapid the landing, the more complete the surprise. According to experience, some boats are almost always lost or rendered useless during the disembarkation. For this reason, also, their number should be increased."

The forces to be employed should be thoroughly trained, employing the same boats that will actually be used for the expedition, not only in embarking and disembarking but also in other drills such as: fire, collision, abandon ship, etc. Expeditionary troops may be used, and should be practised, as guards, lookouts, orderlies, life boat crews, etc.

The exercises of embarkation and disembarkation should be practised under all conditions; with both rough and calm seas, by day and by night. Usually troops will land during the hours of darkness, in order to derive the maximum benefit from the factor of surprise. History demonstrates positive results have been obtained by audacious attacks.

In exceptional cases, as in the Bay of Tagga, combat ships may be utilized for the transportation of troops to lighten the task of the other ships.

Captain Pye says, "The elements provided for transporting artillery, tanks, supplies, mechanical and horse-drawn transportation from ship to shore rarely fulfill the needs. The ship's boats are not adequate for this purpose. Flat bottom boats, small lighters, and pontons in large numbers are needed. If they have not been provided before weighing anchor they should be constructed on board the transports during the transit, if that is possible."

In preparation for the landing of the French Army at Argelia in 1830 there were constructed: 55 large lighters, 30 of which had a capacity of 140 men each; 12 of the remainder were constructed especially for landing field artillery and the other 13 for siege artillery. The French had, moreover, 124 boats for the transportation of animals and 30 flat bottom boats for supplies. "The boats for livestock were small and usable for disembarking troops after having finished with the animals. The efficacy of the French landing is perhaps the best example that history offers us in the success of landing operations due to good preparation. Only by studying vast combined operations which involved the disembarkation of troops, equipment, and supplies, can we arrive at an estimate of the modern necessities for transportation from the ships to the shore."

3. *Selection of Convenient Points for Executing a Landing*

Among the desirable factors to be considered in selecting a point for a landing are that, if possible, it be not defended by permanent fortifications; that it offer sufficient frontage so that a check in one part may be counterbalanced by a success elsewhere; no immediate obstacles to delay the advance or hinder the concentration of the attacker; sufficient depth of water to allow the ships to get reasonably close to the beaches; terrain for a beachhead sufficiently far inland to protect the landing of rear elements, supplies, etc., from hostile fire; direct roads to the interior not dominated by natural obstacles; the point selected to be a real threat against the troops charged with the defense; and, by no means least, that it offer a good defensive position if such action must be adopted. Logically it will be difficult for any one point to unite all these requirements and therefore it will be necessary to weigh the advantages and disadvantages.

Quoting General Cole: "It will be remembered that a landing realized in front of a determined enemy, in sufficient numbers and entrenched in firmly prepared positions offers very limited chances of success. Therefore the ease of setting foot upon any particular point of enemy territory does not matter, if the positions in which it is done do not offer a reasonable probability of successfully discharging the mission of the expeditionary corps." Of course these essentials for the disembarkation of land forces do not include those in which the navy is concerned.

For the Navy it is desired to know:

(1) The characteristics of the vicinity of the points of disembarkation; free maneuver space for ships; possibility of the ships being attacked in flank, during the operation; mine fields to be dragged, etc.

(2) Nature of the anchorages; depth and character of bottom; distance from where ships will be anchored to the beaches; protection afforded from the sea and the wind; characteristics of the coast; manner of approach of the ships; possibility of entering by night, etc.

(3) Meteorological conditions: predominant winds; state of the tides; probability of exceptional unfavorable

meteorological conditions; influence of tides on movements to and from positions; phase of the moon; time of sunrise and sunset; time of moon rise and set; fogs; etc.

(4) Characteristics of landings; rock or sand; steep banks or gentle slopes; rivers or marshes; sand banks and heights on the beach; manner in which liaison between land troops and the command on board may be established; etc.

The study of these subjects by the naval authorities will be transmitted to the military. The joint study of both will fix the places for operations. It should be borne in mind that the assailant must be ready to overcome any obstacle whatsoever of defensive character, whether of a submarine nature such as: submarines, mines, obstructions, etc., or surface as: artillery of any caliber, machine gun nests, gas, terrestrial obstructions, etc., or aerial as: bombing, machine gun fire, etc.

It is desirable, if possible, that there be more than one spot where attacking forces may be set ashore. The more advantages presented by these places the better will be the result. Such points should be sufficiently far apart to make it impossible for the defender to concentrate his reserves in time after he may have been able to definitely determine which is the main attack and which the secondary. The landing of the Anzacs at Ari Burnu was a demonstration, while the main landing was at Cape Helles, 24 April, 1915.

All places that present proper characteristics for landing should be noted in descending order of the advantages and disadvantages of each. The naval commanders will be most interested in each of those appropriate for executing the disembarkation in an advantageous and orderly manner, and above all, in the hydrographic characteristics and proximity to the beach so that the naval guns can support the assaulting troops while the landing is being made.

It must be remembered that the situation of disembarked troops will be extremely critical if the supply of men, ammunition, matériel and rations be interrupted. Special care should be taken so that such supply may be continued under all conditions of weather and sea.

The points selected by their special natural characteristics for landing operations of the assailant will also be those where an obstinate hostile resistance may be ex-

pected. At some places of the beach of Cape Helles, 25 April, 1915, the Turks expected the hostile landing and resisted so strongly that it was impossible to stay on the beach. At other points the Turks did not think it possible and received a surprise. However, although in many cases this factor will not be obtained, the adaptability of the terrain must be considered. Points on the coast from which the attacker must advance over mountains, rivers, swamps, or other natural obstacles, or through easily defended defiles, where the troops would be practically exterminated, in order to reach the objective, may be rejected.

4. *Embarkation of Expeditionary Forces*

Once the ports of embarkation have been selected troops and material to be transported will begin to flow into these localities. These ports should have not only appropriate landing places, loading cranes, warehouses, space for camping troops, but also railway facilities connected with the zones of supply, sidings and warehousing facilities for merchandise.

The units of each arm should be embarked integrally on the same boat, if possible. The armament and matériel of the unit should accompany it. Special care will be taken of loading supplies so as to get the maximum return in loading each transport. Artillery is in general more conveniently loaded on deck or in places where it may be prepared to open fire before being unloaded. Wagons, limbers, trucks and other rolling stock should be loaded without removing the wheels. All equipment should be ready for immediate use. If the ship's boats are not appropriate to land the heavy pieces of matériel, lighters must be provided. The same must be foreseen for material for the construction of wharves.

The embarkation of animals presents difficulties. The Germans, in the Baltic Islands expedition, used mechanical transport to reduce this difficulty. The actual situation must be considered as it may not be feasible to imitate this proceeding. For animal transport the stalls must be large enough for the animals to lie down, especially on long voy-

ages. There must be sufficient space for the animals to have daily exercise.*

As to loading of airplanes, all care should be taken not to harm the material. Most of the planes should be shipped by special boats such as airplane carriers, or merchant ships fitted for that purpose.

As soon as a transport has its load it should leave the wharf and proceed to its anchorage or to the rendezvous, making way for another ship to be loaded.

The responsibility for security and discipline rests on the transport commander. The senior military commander will use the troops for watchmen, guards, etc., to complement the crew, as necessary.

The preparation of the various orders and annexes, boat loads, embarking of troops, provision of boats for disembarking, formation of echelons of boats for landing, naval protective fire, naval aerial support, communications from ship to shore, etc., will be based on the sequence and relative positions in which the commander-in-chief of the military forces desires that they be disembarked, and with the positions that they will take subsequent to the first landing and while the remaining troops and supplies are being set ashore. The plans should therefore provide that the forces concerned be disembarked in the tactical order (with guns, ammunition and supplies) necessary to attain their various objectives in the least time possible. The loading of transports will therefore be effected so that materials are placed on board in the inverse order to that in which they will be disembarked; the last loaded will be the first sent ashore.

The disembarkation, in general, should be executed in the following order: (1) Troops and arms; (2) Water; (3) Ammunition (for resupply); (4) the remaining elements of materials and supplies.

In the Dardanelles expedition the English troops were loaded at the metropolitan ports with such poor system (if any was used) that the transports had to be sent to Egypt to unload and reload in the order in which they should have been at the start. This caused a delay of over a month in

*The use of treadmills reduces this space, allows ample exercise even in bad weather or when sea is rough. The animals can, of course, be exercised in relays.

the Allied landing at Gallipoli. This delay was extremely lamentable for the result of the campaign. It allowed the skillful General von Sanders to use the time to organize the defense of the peninsula and thereby reap immortal fame. But for this delay the landing at Cape Helles might have taken place 25 March, and the history of the expedition would surely have been quite different. The advantage of "surprise" was also lost by the delay while von Sanders applied himself to the task assigned to him. In a combined operation surprise is of major importance for a landing in force. Against prepared positions strongly defended the task is a hard one, if not to say impossible.

5. *Mission of the Naval Escort*

The naval forces of the attacker will have to be especially careful of hostile submarines which can not only obtain useful information but can also reach favorable positions for attack, without being discovered. As the enemy's coast is approached the anti-submarine security dispositions must be increased. Precautions must be taken against attacks by other naval forces, such as torpedo boats, especially by night. A threat of this nature should be a matter of intense preoccupation not alone for the grave peril of a torpedo attack, but also for the confusion among the transports resulting from the same wherein collisions will not be the least of the dangers. The possibilities of being attacked from the air will likewise increase as the coast is approached. There is no doubt that this may have a decisive influence on the development of the plan previously prepared.

To answer all exigencies the naval protective force should be prepared to defend the transport against:

(1) Sub-aquaceous elements, such as: submarines, mines, nets, stockades, and other obstructions.
(2) Surface elements, such as: long and short range naval fire, field artillery and mortar fire, fire of hidden machine guns, gases, and other obstacles which the enemy may employ.
(3) Aerial elements, such as: bombardment, machine-gun fire, aerial illuminating flares, smoke screens, toxic gases, etc.

6. *Movement of the Convoy to the Theater of Operations*

When the transports are loaded and the naval protective force is ready, the order of march should be assumed. The

transports may move in line or in column, surrounded by part of the light forces of the naval escort forming the anti-submarine screen. The remaining fighting ships will be disposed according to the decision of the naval commander. Tactical and strategical security precautions will be adopted. If possible, some airplanes will operate in advance of the fleet on observation missions, complementing the work of the Navy's scout ships. The screen should be impenetrable. There is, of course, the possibility of submarines working through, but these are to be taken care of by the anti-submarine screen. The organization of the service of security en route will, of course, be established by the naval commander in accordance with fixed rules of aero-naval reconnaissance on the seas.

In the capture of the Baltic Islands the formation adopted by Admiral von Schmidt consisted of dividing the transports into groups of 4 or 5 ships, each group accompanied by a cruiser. In the transport of a group there was a mixed detachment composed of a regiment of infantry, a squadron of cavalry, some batteries of artillery and a company of engineers. This distribution allowed each of these groups to be employed separately in case of necessity. This is a detail of capital importance as the counter-measures of the defender may oblige a change in the points of disembarkation from those previously selected. The formation adopted by von Schmidt was originated by the necessity of crossing a zone where an encounter with hostile naval forces was very probable. This attack could be expected from the north during the advance.

The responsibility for the tactical security of the whole convoy is incumbent on the naval commander. He will adopt necessary measures for sweeping the channels and for aerial and marine vigilance. In his navigation orders he will set the time for the different ships to weigh anchor, and the formation and speed they will adopt for the movement. During the crossing the ships should lie to for some time each day of good weather, in order that the troops may get the maximum exercise possible. Particular attention must be paid to ventilation of all compartments, especially those used for troops. Troop quarters should be disinfected daily to avoid propagation of diseases, that would certainly have

disastrous results especially in the transportation of a large army. Before leaving the port of embarkation, embarking and disembarking exercises will have been practised as frequently as possible. In the capture of the Baltic Islands the dexterity previously acquired permitted the disembarkation in Tagga Bay of 3600 infantrymen in only 80 minutes. These troops were carried on the fighting ships and the launches and rowboats of the same ships were used in ferrying from ship to shore.

If the expeditionary convoy succeeds in reaching its destination and also has superiority in the air there still remains a grave peril to face before arriving at the selected anchorage. This danger is from the hostile submarines and mine fields. While navigating at full speed the paravane gives protection against mines, but when diminishing speed, as in approaching the anchorage, this apparatus loses much of its efficacy. Mine sweepers must therefore be employed to open a route through the mine fields. This channel should be constantly and minutely patrolled as some mines may have been left or some may be free. During the German operations in Tagga Bay the "Bayern" and another ship ran into such mines. As to the submarines, a scrupulous watch will be necessary both by sea and from the air. Airplanes will be invaluable in aiding the mine sweepers to locate mine fields and submarines. If the Dardanelles expedition had had available airplanes to assist the mine sweeping operations in the interior of the straits it would certainly have avoided many of the irreparable set backs experienced by the Allied mine sweepers, and, possibly, would have escaped the catastrophic consequences that the floating of new mine fields by the Turks had on the Allied naval attack, 18 March. This was in a zone which had been cleared some days previously by the mine sweepers of Admiral Robeck's force.

Generally, in order to profit most by the factor of surprise, the anchorage for the expeditionary force will be gained by night. In such a case light ships should be used to mark the route through the mine fields; as was done by the Germans in the approach to the Baltic Islands. Surely the prior sweeping should be executed in any case to bring to light any disagreeable surprise which may have been lurking along the route. All security measures in this

respect, as against submarines also, merit the greatest attention on the part of the naval commander. The Germans in their operation against the Baltic Islands, a model of its kind, worked continuously for a month sweeping mine fields. before the convoy sailed from Libau.

7. *Selection of Anchorages for the Expeditionary Fleet*

Anchorages should be selected in zones completely out of range of enemy batteries. If it is possible, by aviation or other means, the positions of hostile mobile batteries should be located. Similarly, such anchorages should be out of range of enemy fixed artillery, although, in the majority of cases, its exact location will not be known by the attackers. In order to obtain this objective the aviation of the expeditionary forces will be extremely useful; provided that they have gained domination of the air, which is the *sine qua non* that must be realized for any landing operation. With respect to the distance from the anchorage to the beach, it is extremely important that it should not be very great. Actually this inconvenience has been diminished by the utilization of the greater number of motor boats carried by the warships than formerly, when many of the small boats had to be rowed.

The anchorage should be sufficiently sheltered from bad weather. Lack of this requisite may cause an expedition to turn out badly, although the attack forces will be sufficiently sensible not to anchor until the bad weather has passed, if this event occurs in the period when the convoy is approaching the zone of future operations. To arrive at the selected anchorage and to be unable to effect the disembarkation on account of bad weather should give appreciable warning to the defense, allowing it to present a more solid resistance.

8. *Organization of an Advanced Base*

Quoting Captain Pye (Joint Operations of Army & Navy): "Modern squadrons cannot operate without a base. Neither is it probable that important joint operations can be successfully executed without a base of operations in the vicinity of the principal strategic objective. In preparing plans for the occupation of the base, it is necessary to foresee not only the attack but also its defense, once it is cap-

tured. The forces should be carefully organized and equipped for this double role. It is not probable that the defense will be very strong, unless it be a protected base. It is not common to attack a defended base first, since this requires operations of such magnitude that it will be necessary to occupy a temporary base."

The necessity of an advanced base is imposed in the majority of cases, especially when the operations are at great distances from the national ports. This necessity has been accentuated in recent times by the increase of effectives and numerous materials of war now used by the armed forces, compared to those formerly necessary. The selection of a point for an advanced base will be the object of special study by the commanders of expeditionary forces. Said base should answer the imperious necessity of providing continuity of operations, as is required for all warlike enterprises in modern times.

In the war of Spanish Independence, Lord Wellington organized his impregnable base at Lisbon, solidly defended by the famous Torres-Vedras line. On the other hand, Moore, on occupying Coruna, encountered insolvable difficulties when the situation became adverse, in saving his defeated troops and embarking them on the British ships. In that campaign the English give us a splendid example of the best way of taking advantage of sea domination, by employing all their available military forces against the imperial armies. They advanced their bases of operations contemporaneously with the penetration of the Anglo-Spanish forces in the Iberian peninsula and accordingly as the enemy retired. With this advance of bases the slow land transportation was reduced in order to profit by the advantages of sea communications which at that time were superior. When the enemy reached the French frontier in its retrograde movement, the British bases were established on that frontier.

Similarly, in the Spanish-American War, Guantánamo Bay served as a base for Sampson who was blockading Santiago. In this case the use of combined forces was not necessary for the capture of the base. There were sufficient Marines to execute the land operations and overturn the inadequate defense.

Analogously, in the Dardanelles campaign, the British occupied Mudros on the island of Lemnos, as a base, without meeting any resistance. This port lacked the most indispensable elements of a modern base. For this reason it was necessary to send to Alexandria the English transports that had been poorly loaded with the first troops. These transports were unloaded at the Egyptian port and reloaded in the manner demanded by the disembarking operation to be executed.

In most cases in obtaining an adequate base, there is a condition inherent in the strategy of combined operations, the influence of which may be vital to the prosecution of the campaign. Landing operations may often be executed at points on the coast that are completely open but, when the national ports are relatively far away, an adequate base is of vital necessity.

Of course the organization of an advanced base requires innumerable quantities of elements to utilize it in the best way possible. It must be emphasized that in many cases said organization can only be realized in a rudimentary form.

Quoting Captain Pye: "An army will find itself in a critical situation if, after having disembarked, its supply is interrupted because the weather conditions do not permit transporting provisions from the ships to the shore. It is therefore indispensable that the spot selected for the landing be appropriate for setting on shore the troops and equipment necessary.

"In the Crimean campaign the transports first anchored in the port of Eupatoria, some twenty miles from Sebastopol, but the landing was made on the open beach of Old Fort, about twelve miles to the south. On the first day the disembarkation of troops was accomplished rapidly, but later these operations had to be suspended for two days due to bad weather. The allied chiefs anticipated the early fall of Sebastopol and did not consider it would be necessary to establish a base. Even though fortunate in their first contact with the enemy in the battle of Alma, they lost confidence on approaching the fortifications of Sebastopol, and decided to modify their plan of attack. It is very probable that rumors of the strength of Star Fort, to the north, had an important influence on this decision. Also it is certain that

the change of plan referred to gave the Allies the port of Balaclava and the Bay of Kamich as bases.

"Although the question of whether the Allies would have been able to take Sebastopol from the north, by a surprise attack, will always be controvertible, it is perfectly evident, by the difficulties experienced in landing materials on the open coast, that if their flank march around the port of Sebastopol should have failed by being stopped by the Russian army, defeat would have been an almost certain consequence. Not having foreseen the necessity of a base might have brought a crushing defeat as a result."

On a much larger scale, the enormous quantities of supplies required by modern armies; not only the rations of much more numerous troops than formerly, but also supplies of ammunition, now greatly increased due to the great rapidity of fire of the present weapons and the quantity used in proportion to the number of men, compared to the epoch of the Crimean War, make the utilization of advanced bases a matter of vital importance for the conduct of a combined operation.

9. *Execution of the Disembarking Operations*

The methods to effect the disembarking should be determined by the characteristics of the tides, nature of the beaches, conditions of the sea and classes of boats available. The landing of the most important forces should be, as far as possible, on a broad front in order to profit by the advantages of all indentations and openings leading to the beaches, and to avoid massing troops on the higher beaches. When the enemy has knowledge of the projected operation these are the points that will be most stubbornly defended, as was the case at Gallipoli. Other landings on secondary objectives will serve to alleviate the task of the main attack, as happened in the battle of Anzac-Suvla in which General Davies, on the Helles front contained a large part of the Ottoman troops while the main attack proceeded on the Ari Burnu front with the objective of capturing the Sari-Bair hill mass in order to take the forces defending the Helles front in reverse.

In order to be able to accomplish the landing it will be necessary that the air force maintain aerial domination not

only during the operation but also after it has been effected. General Faupel says: "A great difficulty for the attacker formerly consisted in that at the moment of landing cavalry reconnaissance was still unable to function. Today aerial exploration facilitates receiving on time much necessary data."

Landings may be of two kinds: either by disembarking in a single echelon all tactical units so far as means available and the beach permit, or by landing tactical units successively in the formation in which they will be employed in the terrestrial action. In the first case, the first echelon will permit the organization of a beachhead for the later landing of the remaining forces on a broader front, as was done by the Germans in Tagga Bay. Sending units ashore in the order in which they should be employed in the battle reduces confusion and, possibly, losses, and permits a more efficacious fiscalization on the part of the commander.

The experience in the battle of Suvla, in the Dardanelles, shows that each detachment disembarked at a point should be perfectly instructed in its mission. It would even be advantageous if the knowledge of the mission was extended to neighboring units. This would insure a closer cooperation between the different groups and have a beneficial reaction on the whole combined operation.

The most effective hour for a landing operation will be that employed at Gallipoli and in Tagga Bay, that is, at dawn, so as to profit to the maximum of the factor of "surprise," thus avoiding the set-backs that would be brought on if the defense had prior warning of the initiation of the operation.

If the echeloned method of disembarking is employed, the first echelon will so manuever as to form a kind of beachhead to facilitate and assure the operation of the second. Once the latter is landed, the two will be capable of clearing the adjacent beaches to facilitate the task of the successive echelons.

To attenuate as far as possible the effect of enemy resistence a nocturnal landing may be resorted to. This, however, presents serious difficulties such as the trans-shipment of troops to the small boats for the ship-to-shore movement. The orderly advance of these boats to the disembarkation points is a difficult maneuver in darkness. It is also hard to

determine the effects of currents. In the night landing at Gaba-Tepe, in the Dardanelles campaign, the boats were carried more than a half mile by the current, and the operation was effected at a point very distant from that previously fixed. The Germans at Tagga Bay, took the ideal moment—as soon as it became light. It is very easy thus to avoid the inconveniences of obscurity, and practically the same advantages of surprise are obtained as at night.

Operations begun under cover of darkness will be continued during daylight under the protection of smoke screens, from airplanes, enveloping the coastal zone.

While the transports are at the anchorage, the naval escort will naturally furnish protection for them against submarines and other ships. A natural protection against submarines would be to select an anchorage with a depth of less than 10 fathoms as it would be difficult for a completely submerged attack to be made.

The warships will protect, by gunfire, all landings in force, not only while troops are near the coast, but in so far as possible up to the limit of range inland.

Again quoting Captain Pye: "On formulating plans for disembarking detailed instructions should be given to the officers detached to guide the boats as to the points which they should reach, indicating to them if possible, any peculiarity of the stretch of coast that may serve them for a guide. All that pertains to tides and sea currents should be carefully studied with the object of determining the most propitious moment for landing the heavy pieces of equipment. The boats and lighters in which they are to be transported to shore should be indicated to the troops and instructions should be given them as to procedure to follow once ashore, of plans for supply of rations and water, of tactical objectives."

In the landing operation the transports, on taking the proper anchorage, will occupy the place indicated in operations orders so that they may approach the beach as nearly as may be, depending upon their draught. If the mine sweeping has been efficacious the best way of approaching the beach will be in line with intervals of 400 to 500 yards. If at night, the best formation will be in column or in line of columns, according to the decision of the commander, con-

sidering also the work done by the mine sweepers. Let us recall the German landing in Tagga Bay, a typical example of this case. In the appoach in column a route should be followed which places the transports in line parallel to the beach at the time of disembarkation. As to transportation to shore of the troops embarked in row boats, as many columns will be formed of them as there are motor launches available. Each convoy will be so organized that the number of boats will respond to the facilities presented by the points on the beach corresponding to each. Since the greater dispersion of modern artillery fire is in distance, the columns of boats towed must not be very long. If many motor launches are available it will be more convenient to have the largest practical number of short columns. The boarding of the beach should be done as simultaneously as possible to prevent the enemy from concentrating artillery fire successively on the columns of boats arriving at different times.

10. *Missions of the Naval Escort During the Landing Operation*

The navy has the mission of protecting the landing of troops from aerial operations, naval gun fire, submarines, mines, etc. The disadvantages of naval gun fire for bombarding terrestrial targets, by its flat trajectory, and the unsuitability of its ammunition for destruction of coastal works, as well as the limited quantity of ammunition that can be carried by warships must be borne in mind.

Domination of the air will save naval fire. Aerial bombardment will reach points where a high angle of fire would be necessary, such as reverse slopes, etc.

General Cole ("Joint Overseas Operations") says: "The requirement that the navy support the landing with artillery fire is one of the most important aspects of this operation, in spite of the fact that naval artillery is not generally adaptable to this action, having an extremely flat trajectory and leaving many areas in which the defense may work without being disturbed. The navy is habituated to fire at visible targets while in terrestrial warfare the target is almost always invisible, since once located it may be neutralized and destroyed. The difficulty of covering landing operations is increased in the case of night firing, with its

consequent disadvantages of darkness, incomplete knowledge by the ship of the targets, the impossibility of telling if the fire is effective, etc."

Referring to the Dardanelles campaign and to the error committed there by the Allies, in comparing the effects of naval fire against terrestrial targets with that of land artillery, with a more curved trajectory and appropriate ammunition, Captain Weniger, of the German Navy says: "No one will doubt that a combined attack of the fleet and the army against the Dardanelles was the operation that offered the most possibility, and it should be recognized that the mission for the fleet alone to cross the sea of Marmosa was executable.

"The English admirals held it impossible. They feared the losses and feared to compromise the absolute superiority of the English fleet in the North Sea. The English commander-in-chief before the Dardanelles received orders for attacks that carried exhortations for prudence and for economy in ammunition. There one may see the cause of the failure. Other circumstances had intervened. The weather was frequently inclement. It would have been better to begin late in April at a time when there was less fear of bad weather. The forces of the adversary were estimated at less than they were in reality (a fault often committed by the English in their different wars, as in that with the Boers). The destructive capacity of the German 38-c.m.s., on the contrary, had been estimated very high.—The same results were expected of naval pieces of the same caliber.—Another circumstance which contributed to the failure was the lack of success of the mine sweepers whose crews did not want to work under hostile fire. The commander was in error when he announced the Erenkeu zone free of mines."

For the reason that the difficulties of naval protection are multiplied at night the Germans in the attack on the batteries of Ninnast and Hundsert, did not open fire with naval guns until day began to break and were thus able to verify the effects.

We also know that for another reason the navy is at a disadvantage, it must bring its fire to bear on vital objectives: the hostile guns. It is also the mission of naval artil-

lery and the aviation to exert their maximum efforts to silence not only the fire of all enemy batteries but also of machine guns and air forces which attempt to molest the approach of the loaded launches and their landing on the beach.

11. *The Role of the Air Forces in Combined Operations*

The naval aviation should obtain air superiority or at least prevent hostile air supremacy, from the time the ships approach the disembarkation points until the landing has progressed far enough to permit the terrestrial air forces to function. These land air forces will then be able to establish on land a provisional air base from which airplanes can operate in cooperation with those of the navy in order to attain air supremacy. To fill their role, the naval air forces must consist of hydroaeroplanes or those launched by catapults or carried on airplane carriers. They must be able to put a sufficient number of planes in the air to maintain air superiority for an interval long enough to give time to begin to function. The temporary airdrome will not be situated in a place that will indicate to the enemy where the main attack of the assailants will be made. Neither will it be placed too far forward of the disembarkation point, in order that its protection may not be too difficult. When en route, the naval air forces are detached to begin operations, the commander of military forces should provide aerial observers of known ability, so that the information gained by the navy's aviation may contain that desired as to proposed objectives, and that all unnecessary elements be eliminated. The naval airplanes should be equipped for aerial photography, for the direction of the fire of their own ships, for observation and sending information obtained and also (its principal function) to attack hostile air forces.

In aerial operations previous to a landing, amphibious planes would be very useful. Planes of this type could be concentrated on the decks of transports, launched completely set up and equipped and do not require a terrestrial landing field.

It must be remembered that expeditionary forces will be transported largely in merchant ships which have no protection against aerial bombing. This being a distinct ad-

vantage to the defenders it is logical that if the defense has aerial superiority in the zone where the joint operation will take place, many of the launches and some of the transports will be destroyed. It is therefore necessary that the attackers have air supremacy in the zone of operations or at least that the action of enemy airplanes be neutralized lest it result fatally to the expedition.

Domination of the air will also simplify the difficulties of preliminary reconnaissance by the offense and will allow it, before disembarkation, not only to reconnoiter the enemy's movements, but also to photograph all or part of the defensive works and to bring the maps of the region completely up to date, or to make an aerial mosaic of the whole region. From photographs, as well as from other sources, of information on the number and distribution of hostile forces, mobile and fixed defenses as well as troops, much will be deduced for the better conduct of the projected operations.

12. *Missions of the Forces Disembarked*

To each of the echelons landed should be attached a detachment of engineers, medical troops, and sufficient communications personnel to assure transmission of signals between units landed and ships.

The first troops ashore should try to dislodge the enemy from trenches and machine gun nests, which action will facilitate the disembarkation of succeeding echelons. The primary objective of the leading troops will be hostile positions near the beach so that the second group may land more easily and may have maneuver space. In any case, it will be necessary to consolidate the position to repulse later attacks of the enemy who, reinforced, will try to drive the forces landed back into the sea.

The second group may relieve the first but it should in any case assure the defense of the beach and cover the landing of other echelons.

When all troops are on shore it is incumbent on the military commander to organize the forces for the advance into hostile territory, and seize the objectives indicated in the plan of operations. Of course, the air forces will have a preponderant role not only in exploration but also in the

attack, by bombing all appropriate objectives. The maritime service will be charged with sending ashore reinforcements and supplies, in order to maintain the necessary continuity for a successful termination of the campaign.

The commanders of tactical units should have an exact knowledge of objectives assigned to their troops, so as to avoid occurrences like that in the Bay of Suvla. A regiment of General Hammersley's division captured "Cimeter" hill and, after fulfilling the orders of the division commander, had to move out of that place which never could be reoccupied by the British. The result of 8 August 1915, when the soldiers at Suvla Bay roamed around the beach, idle, instead of going to take the objectives assigned by General Hamilton is most eloquent. This idleness had fatal consequences for the operations. With this opportunity only the weak battalions of Major Willmer would have opposed the occupation of Anafarta hill mass. Later, when it was desired to advance the troops landed, the able von Sanders had assured the defense of the Anafarta sector.

The disembarking of troops in launches and boats should be done in such way that tactical units can be set ashore in the specified order, as rapidly as possible, so that they may be organized and the defender made to feel the weight of their blows in the minimum of time. The period from the commencement of discharging the transports until the troops are on shore is of vital importance. It merits a careful study of all the details of disembarkation. The types of boats most suitable to be used should be established beforehand.

The landing parties should be assigned definite zones in which to operate, with the exception of a small reserve which will remain under orders of the commander.

13. *Organization of the Enemy Defense*

The commander of the military forces will make a minute study of the terrain and, by placing himself in the position of the defender, consider the organization of the ground against a landing. Some positions will be evidently suitable as strong points, others will be adaptable for machine gun nests, so as to sweep the beaches; some places should be protected by submarine obstacles, etc. In short,

both the military and naval command must concoct in their minds the enemy's defensive plan, taking into account the knowledge they have of the positions to defend. They will then adopt the best dispositions to attack this defense. Lack of such study caused the English to run into submarine obtacles, placed by the Turks at all probable landing points, and resulted in heavy losses during the landing on 25 April 1915.

Tractor drawn and railway artillery are important elements of the defense. The assailant should locate such pieces and endeavor to silence and destroy them.

The preparation of the defense of a beach will be proportional to the time allowed. With the great efficiency of modern arms, surprise is today more than ever of capital importance for the success of a landing. It has been emphasized that with aviation and submarines the possibility of surprise has been reduced, but, nevertheless, every effort will be made to attain it. These two arms, aviation and submarines, offer more facilities to the defense than to the attack. For the defense, mines which may be discharged electrically, have greatly increased the radius of action. Subaquaceous obstacles such as stockages, barbed wire, etc., will be used, as well as contact mines. Barbed wire entanglements will be encountered on land. Similarly, radiogonometric stations, hydrophones, torpedo tubes mounted on shore, tanks, armored cars, terrestrial mines, methods of camouflaging artillery pieces, searchlights, greater range of artillery installed in forts or batteries, etc., all contribute to strengthening the defense and giving to its organization many more advantages than in other times, compared to the quality of the attacking forces. The four years of position warfare, 1914-1918, have greatly enriched the means of coast defense.

Brigadier General H. Rowan Robinson ("The Role of Aviation in Coast Defense," Journal of the Royal United Service Institution, August 1930) says: "Given the promise of aerial superiority, the attacker may profit by his aviation for reconnaissance, observation of fire, and imposing delay on hostile reinforcements. The defender, however, may draw even more profit from his aviation. Unless the threat of the enemy is at close range, no degree of inferiority in the

air is a reason for not bombing transports at sea, at a distance, or attacking them near the coast during the landing operation. Transports are easier to sink than warships. Unless the entire undertaking is executed at night or in fog the aviation will surely discover it and prevent the offense from obtaining the surprise which is essential to success.

"The defender is at a disadvantage with respect to observation of fire as, ordinarily, there will be few antiaircraft guns to protect planes assigned to this mission. Altogether, however, aviation confers more benefits on the defender, although it may be weaker in this arm than the aggressor and the execution of a resisted landing will be more difficult and doubtful than formerly. If the defender has a superior air force the attack will certainly fail, even against a quite moderate opposition by terrestrial forces.

"Troops in small boats are absolutely impotent. A landing force must necessarily count on a superior air force and effective support by the guns of the warships. If the efficacy of modern defensive elements is not neutralized by the offensive operations of aviation and warships, disembarkation at a well defended point becomes virtually impossible.

"Even the natural advantages favor the defense. Rocks and reefs are dangerous. Surf impedes a landing. Lack of precise knowledge of the terrain on the part of the attacking force, effect of wind and current, the advantages of shelter on shore, are all factors unfavorable to the assaulting force."

14. *Final Considerations*

Modern means for carrying on both naval and terrestrial warfare have increased the defensive power of a maritime front. The factor of surprise, the advantage of which in joint operations, more than in any other class of bellicose enterprises whatsoever, may give astounding results, is seriously compromised, if not in many cases very restricted, because of the advent of aviation and other elements on the naval scene. The difficulty in maintaining secrecy and in obtaining surprise has been manifest in all ages and has made decisive operations of this character more arduous. However, the taking of the Baltic Islands was realized when all these new means were in use. One may arrive at the

conclusion that, although these joint operations are difficult of execution, they are entirely feasible, and, in many cases, absolutely necessary. For the execution of the enterprise all means available will be put into practice, and it will be conducted in accordance with the Principles of War in order to arrive at the desired end.

Divisional Artillery of Tomorrow

["DIVISIONSARTILLERIE VON MORGEN."—Militär-Wochenblatt, 4 October, 1932.]

Abstracted by Major A. Vollmer

This article represents a further contribution to the subject of the development of modern artillery, and an extenuation on the article appearing in "Wehr und Waffen" for July 1932, by Captain Gallwitz, entitled "Considerations about the development of modern artillery" wherein he cites two solutions.

Captain Gallwitz, Dr. Ing., 4th F. A., undertook certain mathematical investigations instigated by the increase of range by the French Artillery of their 7.7 cm. field gun to 14 kilometers, without change of caliber. In the report on these investigations in "Wehr and Waffen" he starts with the assumption that the tactical value of a gun depends upon its range, mobility and effect on the target, varying directly as the first and last, and inversely as the weight. He concludes that the increase in range of the French gun has been made possible only through undue increase of weight.

He then imagines a duel between the artillery of two divisions, one normally equipped with six batteries of 7.7 cm guns and three batteries of 10.5 cm howitzers; the other with three batteries of 9 cm guns, three batteries of 7.7 cm guns, and three batteries of 13 cm guns, for use as light mortars, with a maximum range of 6 kilometers. The 9 cm gun batteries would be tractor drawn, the rest horse drawn. He finds that the normally equipped division artillery would be superior to the other only in the exceptional case of an enemy offering many suitable targets at 14 kilometers which can be taken under observed fire.

Captain Gallwitz intersperses battle reminiscences to illustrate the difficulties of moving divisional artillery on the battlefield. Thus in the breakthrough at Caporetto in 1917 it took the combined efforts of artillery, infantry and engineers three hours to get one single howitzer of his battery over the Italian trenches. Again in 1918 against the British no battery of his brigade, during the German attack on Arras on 30 March, had more than one howitzer forward for several hours, all the rest being stuck in shell holes.

British comment (Royal Engineers Journal, Dec. 1932, p. 729) on this article points out that this evidence furnishes a sidelight on the situation at that time. The spearhead of the German thrust had been pushed toward Amiens as far as it would go without a further increase of the width of the breakthrough. Since the French were preventing an extension to the south the capture of Arras to the north became a necessary condition of further progress, and when this German attack failed, the push got no farther, furnishing us incidentally with an example of strategic victory of the greatest importance being gained by a side acting purely on the defensive.

The justification for his article which Captain Gallwitz offers is that, since the Treaty of Versailles prohibits all practical trials in Germany, a critical examination of armament development in other countries is the only alternative to slavish imitation. In this he follows the general course of present German military literature which even more than usual with the vanquished has become, due to the treaty limitations, a veritable mine of valuable critique and synthesis.

The present article in the "Militär-Wochenblatt" commences by noting that Captain Gallwitz' article concerns close combat (Nahkampf) and this assumes that this formation of artillery is the primary one, with Fernkampf (distant combat) merely secondary. The question is raised whether this assumption is correct. Its decision is important inasmuch as a great deal depends on it.

In this connection there are two opposite conceptions. The one (French) considers that the artillery fights, the infantry occupies; the other (German) that the infantry

conquers ground, the artillery accompanies and supports. Only the next war can decide which is correct. The artillery will in the first instance commence the battle and carry it through so thoroughly that the second (infantry) phase can begin. Then the infantry will achieve victory while the artillery facilitates this by keeping down what she has already suppressed, and by supporting in every way the eventual infantry assault (main effort).

The above mentioned artillery preparation has however today assumed such importance that it must be conceived of as a separate phase, coordinate with the infantry attack, rather than as an accompaniment. Not to recognize this is to play ostrich. In 1914 in the advance through Belgium and France we (Germany) did not recognize it and as a consequence useless sacrifices resulted. Let us not make the same mistake again.

The development of weapons during and following the World War has enormously strengthened the defensive. This has made attack without effective artillery preparation impossible. If the enemy—as prescribed by French regulations—purposely withholds his artillery fire to a great extent until the moment of our infantry attack then the latter will be decimated. To believe otherwise is to make the wish the father of the thought. Already in the World War the French systematically withheld the fire of their heavy weapons in the defense until our infantry assaulted. Then they engulfed the unavoidably greater concentrations of our infantry assault by a fire of all heavy weapons. This secured a much greater harvest, because by withholding their fire entirely these batteries had not disclosed their positions and had not been fired upon.

For the reasons given the unqualified support of the infantry can be no longer the chief function of the artillery. It must now be the destruction of the enemy's heavy weapons—artillery and machine guns.

In the first place it must be determined what ranges, calibers, and types of guns are needed to combat the enemy artillery. This depends in the first instance on the enemy himself. As of yore one can conquer a foe only if one has equal or superior strength in arms. One may think of

morale and matériel what one wishes to think, yet today morale does not weigh so heavily against the machine as it once did.

One is thus forced to have weapons similar to those of the enemy because the demands are similar. In artillery combat undoubtedly effect is more important than mobility. This consideration leads to increase of calibers for greater effect against matériel, greater effect in width against personnel, and to make possible high angle fire to reach behind cover—thus at least 9 to 15 cm. When we consider mobility and fire power and the needs of the infantry we arrive at calibers of 7 cm for the infantry guns, and 10 cm for the divisional artillery.

Lastly the augmented requirements of increased ranges brings us to the conclusion that ⅔ of divisional artillery should consist of 10 cm caliber long range light howitzers having extensive flat trajectory fire, along with high angle fire of larger calibers.

Strategic Employment of Cavalry for a Decision

["OPERATIVER EINSATZ DER HEERESKAVALLERIE ZUR ENTSCHEIDUNG," by Rittmeister Crissoli—Militär-Wochenblatt, 4 September, 1932.]

Translated by Major A. Vollmer

(For sketches, see original.)

The study of the use of the German Army cavalry in the World War brings one to the conclusion that there was lacking an understanding of its proper employment in consonance with the von Schlieffen plan.

Konrad Leppa, in the April 1932 "Wissen und Wehr" (See RCML No. 45, page 41, for translation) rightly emphasizes the disastrous splitting up of the German Army cavalry in the World War. Only a cavalry army on the right wing, as planned for the beginning of the War by von Bernhardi, would have been capable of decisive strategic intervention. It seems as if its proper employment and possibilities were entirely overlooked by the German leadership. Not only was there no large cavalry unit formed, but

even after the Marne crossing the cavalry forces were so dissipated that they were unable decisively to intervene (See essay "Critical Observations Concerning the Use of Army Cavalry Corps II," in "Militär-Wochenblatt" for 4 March 1931, original German article, not reviewed), and later also, on 30 August 1914, when an opportunity was presented for the use of cavalry in a breakthrough there was apparently no understanding of its use for such purpose. (See article, "The cooperation of the First with the Second Army in the attack of 30 August 1914," in "Militär-Wochenblatt" for 25 March 1931, as digested in RCMW 42, page 14.)

But not alone on the German side was there this shortsightedness. The French too did not once succeed in assembling their cavalry for a decisive blow. The disposing of their cavalry forces all along the line is more understandable inasmuch as they had no open flank to begin with. Later, however, when they had an open flank east of Paris neither the exhausted Sordet Corps nor the Corps Conneau were on hand to influence the combat let alone bring about a decisive success for the French arms. (See article, "The German cavalry and that of the western Allies in August and September 1914," in "Militär-Wochenblatt" for 11 and 18 May 1930, abstracted on page 114, RCMW No. 40.)

The later years of the War resulted in fixed fronts which excluded all possibility of the employment of army cavalry.

The first opportunity after the World War for the strategic employment of army cavalry presented itself to the Volunteer Army of Wrangel and Denikine who were cooperating with the Cavalry Corps Mamontow against the Red Army. The two armies were about 600 km. apart. Wrangel was fighting on the Volga north of Zarizyn, Denikine at Orel. The Cavalry Corps Mamontow was between the two, about 350 km. from Denikine.

This cavalry corps engaged in useless raids on Woronez, Tambow, Koslow and Jelez, destroying railroads and depots and marching about 800 km. in four weeks. When an opportunity came for decisive combat, namely an attack against Budjonny, its strength was used up. It could only

withdraw to Woronez. The dispatch of this force on secondary missions, involving marches of hundreds of miles, is a typical example of the useless employment of cavalry. Even with the use of the most modern means of communication such methods will never succeed in having the army cavalry at the critical point at the time when it could further a decisive operation. I do not see, as Captain Balck does ("Deutsche Wehr," 22 April 1932), that the mistake lay in the raid on Mamontow from Woronez on Tambow, Koslow, Jelez. The mistake happened earlier—it lay in the original dispositions. In this situation where the fighting armies were so far removed from each other a decision had to be arrived at early as to which army was to attach the cavalry corps for decisive results. Thus it would have to be kept near one of them, that is, either in the vicinity north of Donknies, west of Zarizyn, or at Kursk.

Another opportunity for a decisive use of cavalry was offered in the Russo-Polish Campaign of 1920. There again the cavalry army Budjonny (4th, 6th, 11th & 14th Russian Cavalry Divisions) was given the mission of operating between the Twelfth and Fourteenth Russian Armies to break through the opposing Poles and to envelop the Third Polish Army. Moreover, in this instance the cavalry was to do this alone, and unassisted. Though successful in the breakthrough, at the expense of much time and strength, the expected exploitation did not materialize. Budjonny did not advance as ordered on Fastow, but advanced on Bereditschew, Shitomir. Thus, instead of helping the attacking Russian Army by an advance against the rear of the Third Polish Army and enveloping it, this enabled the Third Polish Army to withdraw to the northwest. Fastow, the objective, is about 70 km. southwest of Kiev; Bereditschew, on the other hand, is 150 km. west of Kiev. In this case the Russian high command undoubtedly was sound in its strategy, but success was not attained due to the egotism of the cavalry leader who sought even greater results by too wide an encirclement.

The march accomplishments of the Budjonny cavalry army are interesting. They exceed those of the German cavalry of 1914. In the 5 weeks before the attack, the Rus-

sians covered 1000 km. Not until the last week, in a total of 20,000 horses, did their losses amount to 12 per day. ("Breakthrough by the Russian Cavalry Army of the Polish Front in the Spring of 1920," by Captain Kretschmer. "Wissen und Wehr" No. 3, 1931.)

In the later phases of the Russo-Polish campaign the Russian high command, in the offensive against Warsaw and Lublin, proposed to employ the cavalry in an operation against the enemy rear. But, upon reaching the north wing of the Fifth Polish Army, instead of turning this to the south on Plock by means of the III Cavalry Corps in order to hinder the attack of this army and further their own plans, this Corps was sent across the Vistula, south of Thorn, with the fruitless mission of turning to the north, after crossing the stream, engulfing West Prussia, and cutting the communications with Danzig. After crossing the stream it finally received orders at Wloclawek and Plock to join in the battle against the Fifth German Army. But now it was too late.

The situation was different with the Cavalry Corps Budjonny. This received the clear mission to advance together with the Twelfth Russian Army on Lublin to attack the Third and Fourth Polish Armies frontally and envelop them from the south by means of the cavalry. Again Budjonny went his own way. He changed direction on Lemberg away from the critical point, and thus brought to naught the plans of the high command.

A classical example of a decisive employment of army cavalry occurred in the Turkish War for Independence against the Greeks, with Mustapha Kemal Pasha as commander and Fachreddin Pasha as cavalry leader in the battle of Afiun Karahissar—an example of a single-minded purpose in the carrying out of an assigned mission. In August 1922 the Greeks were in a fortified position with their main body (the I and II Corps, total of 7 divisions) extended over 100 km. in a half circle about Afiun Karahissar. Farther to the north were 4 divisions in the III Corps on a 200 km. front. The latter do not play any role so far as concerns the employment of the cavalry. Kemal Pasha had placed 9 divisions and 1 cavalry division in the front line

against the Greeks. He had retained 9 divisions and 4 cavalry divisions far behind the front as a reserve. One cavalry division and 3 divisions were east of the Sakaria, 6 divisions on each side of the road Ak Schehir-Tschai, 3 cavalry divisions 45 km. east of Ak Schehir. The famous leader and statesman, Kemal Pasha, knew well how to conduct the approach march under cover of darkness and with every modern means of deception. He purposed to annihilate the Greeks by a preponderance of force. The I, IV, and II Corps were assembled from south and southwest of Afiun Karahissar for an attack northwards. West of this the Fachreddin Cavalry Corps was assembled for the breakthrough. The cavalry corps succeeded during the night in hitting upon a poorly guarded section of the Greek front and breaking through. By evening of the day of attack they were fighting in 3 directions astride the road Afiun Karahissar—Uschak. Retreat was inevitable for the Greeks. The cavalry corps succeeded in getting behind the withdrawing group of General Trikupis and, together with the III, IV, and VI Corps, in capturing the greatest part of his forces. But it is to be noted especially that the Turkish leader was not content with this victory, but on September 2d, he sent the cavalry corps on a ruthless pursuit which attained Smyrna (300 km. west of Afiun Karahissar) early on the 9th; i.e., in each of the 6 days of pursuit a 50 km. march was made.

In conclusion it is to be noted that army cavalry can contribute effectively toward a decisive success only if it is introduced in the center of the battle in complete cooperation with the infantry. This cooperation must not involve close contact. If the size of the cavalry force permits, it must be directed toward the enemy's flank and rear. The cavalry must gain an essential influence on the combat of the enemy main forces either to capture them or help cause their withdrawal before our own forces. An open enemy flank is not always necessary for success. The cavalry must be ready to exploit a breakthrough as well. If need be they must be helped in this by allotment of auxiliary arms such as heavy artillery. Lastly the cavalry may be able to engage in outflanking operations.

Thoughts on Military Leadership

["GEDANKEN ÜBER MILITÄRISCHES FÜHRERTUM," by Generalleutnant F. v.Cochenhausen — Wissen und Wehr, September 1932.]

Translated by Major A. Vollmer

In peace time the understanding of military leadership is neglected. The higher the rank of officers the less opportunity there is for them to practice it. Criticism of the small scale maneuvers becomes their function. Of this is born skepticism, and this is not conducive to leadership.

To be sure, participation in troop exercises trains leaders in time and space, estimate of terrain, influence of weather, and evaluation of information. But these are side issues. The real difficulty of leadership lies in the fog of uncertainty and the pressure of responsibility rife in a real war situation.

War games and terrain exercises offer more. They, furthermore, train on a larger scale. But these, as well, do not create a war-like situation. In them the chief element is logic. They do not afford in full measure the intangible elements which awaken in a leader's soul under real war conditions.

But it is just these elements which slumber in the subconscious of the true leader, and break forth as a "feu sacré" at the given moment to achieve success. It is significant that Napoleon, Clausewitz, and Moltke did not consider the practical schooling of leaders as the most important thing. They esteemed, above all, self culture from examples of the past. To them military history seemed the best source from which to learn military leadership, because, in the actions revealed thereby, one can discover the causes of success and failure.

If one asks how much time an older officer can devote to such preparation for leadership in view of the demands on him of training, etc., the answer is: "not much." Most of them are forced to prosecute their "main efforts" in other fields—organization, supply, equipment, or training. No wonder that very many are exclusively occupied with those specialties to which their predilections dispose them.

and that in them the further development of the qualities constituting military leadership does not occur.

In the increased refinement of functions in all branches of modern armies the danger is that effort towards competency in the specialties becomes the only schooling, while the nurture of the qualities of leadership becomes secondary. Thereby such views appear as: "War itself produces its leaders," when in fact a modern war "starts off with a bang" and leaves no time for this. Or, it is asserted that mechanization permits no freedom of choice to the subordinate leaders anyway; they need only carry out the orders of the generals, and this everyone who is properly trained is able to do. Such doctrines, even maintained in professional literature, show how far specialization has taken us from the essential nature of war. The specialist tends to glorify his own domain and to slight that with which he does not feel himself conversant. If one has been specially occupied with personalities he will assert that the character of leaders is most important. If one feels at home in troop service one will declare, with Frederick the Great, that one must be in love with "details," as this is the first step toward victory. Others find in the political aspect the conjurers stone with which the simpler functions of the military profession can be mastered. Again others find in Industry the maxim that "organization is everything." Lastly the armament technicians see a Future Warfare in which their favorite weapon is the center of things, with everything dependent on it.

Closely examined, these are all purely lay conceptions. They are devilishly like modern journalism which permits itself to judge in every domain, though the writer be ever so foreign to it. Now these conceptions would be of no importance if they were not sometimes put forth by older experienced officers who speak with a certain authority. Inexperienced military youth is easily misled thereby. It takes superficial estimate for deep wisdom. Inasmuch as it has no certain judgement of its own, it becomes captivated by a certain originality, not noticing that this has nothing of logic or experience within it. Thus it becomes used to "jumping at conclusions" and seeking effects, in-

stead of looking at matters sanely and practically as they really are. It arrives at judgements concerning military events prematurely and cavalierly, without mastering the subject matter. It snaps up hither and yon in the literature a spirited bon-mot with which to bring devasting judgement on a leader of the past. The latter, were he still in the flesh would answer with a pitying smile: "Young man, it was unfortunately not as simple and easy as you seem to think." One must guard the young from such superficial thinking when marshalling the military leaders before them, showing them, meantime, what excessively difficult situations they would have to deal with in real warfare.

Clausewitz in his apt way calls the activity of the military leader "a continuous strife with the unexpected." Clear vision must serve him to find the best way in the darkness; his inward resolution must force him at the right moment to take this way. How to gain this vision? Moltke answers: "It is obvious that theoretical knowledge does not suffice for this. Rather the qualities of spirit and character are here essential. They must be manifested practically and professionally, guided by experience, be it from military history, or life itself."

Thus success it not to the pure theorist, nor to the eminently practical. A synthesis of knowledge, spirit, and character is indispensable. We know that catastrophe has resulted for many a leader in the past who became preoccupied with certain ideas and theories of military science and tried to apply them. Instead of recognizing the facts, he constructed a picture of the enemy situation to which his theory could apply. There comes to mind the Prussian leaders at Jena who gazed transfixed at the passes of the Thuringer Woods in their front, expecting to crush the emerging foe by the old echelon attack of Frederick. Then, when Napoleon encircled their left flank, they knew not what to do. Mack at Ulm got into a similar situation because he believed his position to be impregnable, and did not believe any of the reports which showed that his left flank was threatened. Again, in November 1914 it was difficult for us to become reconciled to defense on the West front, as defense, in our peace time training, had been but a stepchild.

The practical value of the study of military science does not lie in devising successful theories. It is found in another direction. Clausewitz expresses it as follows: "Whoever wishes to function in war must not bring anything thereto from books except the culture of the spirit. If he brings ready-made ideas not sired by the exigencies of the moment and born of his own flesh and blood, then the flood of events will wreck the structure before it is completed." This culture of the spirit which we create from the study of strategy and tactics sharpens our perceptions, regulates our judgement, and enriches our resourcefulness. Thus we see that military knowledge is of use not only in collecting experiences but in freeing the spirit and making it elastic. "If I rest I rust" is a precept which every leader who is getting old can well take unto himself.

But it is not to be denied that as men grow older, though they gain in spirit, sense, and insight, they lose some in daring. Only the stronger natures retain the will to do when things are uncertain. Age leads to the line of least resistance. Men like Blucher and the older Moltke are astonishing in that they preserve their audaciousness into old age. "This boldness" says Clausewitz, "does not consist in doing violence to the laws of probability, but rather, at the moment for decision, in the energetic support of the conclusions brought about, in a flash and but half conciously, by the creative genius and sense of judgement." He concludes: "A boldness dominated by the spirit is the stamp of the hero."

If one looks back upon the history of the Prusso-German Armies of the last 130 years one sees that this picture of the ideal military leader was not always recognized as the desideratum. Scharnhorst had to fight for its recognition against the old Prussian leaders who were enamored of objective schemes. The same coterie discredited Gneisenau, and long prevented Clausewitz' re-entry into the Prussian army on the ground of his Russian service. In these personal difficulties were expressed two diametrically opposite worlds of ideas—the old one, objective, fixed, exact, formal, and the new one of the spirit. The new was suffer-

ed to function now and then because it brought victories, but the point was to get rid of it as soon as might be.

And in fact, after the Second Peace of Paris the old regime was again in the saddle. In 1816 Gneisenau was forced to retire, in 1819 Boyen and Gralman disappeared. In 1820 Clausewitz was shelved. There followed a period of super-refinement of formal exercises. The fresh experiences of the War for Independence were forgotten. The guiding personalities had neither spirit nor audacity. In this time it was due solely to Clausewitz that the new spirit was still smoldering. Though he was defamed as an "arm chair scholar" by the self-styled field soldiers, yet throughout his thinking and appreciation he was more soldier and leader than they. His work became a legacy for those young officers who were thirsting in the desert of formality. The General Staff trips of the 50's show how the younger generation—inspired by Scharnhorst's ideas, Gneisenau's deeds, and Clausewitz' teachings—was endeavoring to raise military leadership to a higher standard.

To reach this goal they were aided by Moltke, in whom we see the type of inspired military leader. This highly cultured man, who according to v.Schlieffen lacked but the title of scientist, by his example gave the lie to the old regime who contended that occupation with books destroyed an officer's specific soldierly qualities and made him unsuited as a practical leader of troops. Because "back of his fine philosophical calm, back of his learned composure there burned the fire of an obdurate will to victory, a fierce urge forward, a pitiless striving to destroy the foe" (von Schlieffen). It is to the credit of Emperor William I that he not only gave Moltke a free hand in the creation of a General Staff but a decisive influence on the appointment of the highest commanders. The Emperor believed that only one who himself possessed the essential attributes of leadership was suited to detect these in others. The consequent German leadership of the war for consolidation was of a higher type than has ever since been attained. Nor do such exceptions as Bonin and Steinmetz alter the matter.

The 70's and 80's of the last century represent a step backward due to the disappearance from the scene of the

outstanding influential figures. The earlier solidarity was lost. We do not go into the causes here. Suffice it to say that the World War found in the high military posts individuals of quite divers military qualifications. There were those of extensive education and ripe experience, and others who lacked the proper training, or who had become specialists and had had no opportunity to acquire the requisite qualities of leadership. This fact together with the tendency to call inactive and ineffective higher officers from retirement made the influence of the General Staff predominant. The results were not happy.

It became apparent that the conception of military leadership born after the War for Independence had again gained ground. Individuals who had secured reputation and respect before the World War were not entrusted with commands commensurate with their capabilities. One can cite Goltz and Gallwitz. The General Staff under Schlieffen's leadership had become a laboratory of truly inspired leadership, but his influence on the training of the higher officers had been meager. He had later taken things into his own hands when the higher commanders had shown themselves incapable of the difficult problems. Thereby he had damaged the authority and morale of this group.

The earmark of the untrained leader is that he is superficial and amateur in judgement. If this is not uncovered in a critique, its bad effects do, nevertheless, show up. For things are different in war when thousands of lives and his own reputation are at stake. He then constantly seeks counsel from his Chief of Staff. He feels himself uncertain because he lacks systematic training. His practical experience does not suffice to solve his problems. He becomes entirely dependent on his Chief of Staff. Though he may have admirable personal qualities his subordinates lose faith in him. For this faith is maintained only by active cooperation. He becomes merely a figurehead. Even though he is active and his staff cooperates admirably, yet there is lacking the ripe judgement born of study, and experience with troops, in life and in war. Only when this element is present does the leadership become as promising as human capacity can make it.

There are also leaders who cannot "see the woods for the trees." They go into minutiae to such an extent that perspective is lost. Luckily there are few of these, usually from the General Staff. They make of their staffs pure executing agencies. They kill initiative and the joy of creative work in their subordinates.

The higher leader must be conversant with general staff and troop service. He must be reserved but insist that everything of importance be brought to his notice. Such a man will command the respect of his entire staff. His orders will be carried out. This situation was found in the relationship of Hindenburg and Ludendorff. It was not military tact alone which caused the latter to submit all weighty matters in digested form to the commander. He did so because this was necessary in order that Hindenburg's high authority might be enlisted for its execution.

There has probably never been a leader who did not have a certain amount of ambition. One had more, the other less. For the mercenary of the middle ages it was, next to money, the mainspring of his actions. With the leaders of the national armies this motive has been submerged by that of "service in great things." They are actuated in the first instance by patriotism, and concern for posterity. This spirit, rife in the Prusso-German officers' corps since the War for Independence, makes any show of personal ambition unwelcome. It may still be forgiven if coupled with actual ability.

But if the possessor seeks to substitute other qualities for capabilities in order to advance himself he commands little respect. And the service is very keen in distinguishing these attributes. Thus a leader of meager capacity and great ambition soon creates an atmosphere about him of dissatisfaction and discontent, which destroys ardent cooperation in his subordinates.

There are, to be sure, leaders who are personally capable but who do not understand how to instil in others a love of work. Such skeptical natures may set the highest standards for themselves, but they are eternally doubtful whether their orders will be carried out or whether their subordinates have any abilities. Their pernicious efforts to

keep everything under personal control kills their aides most valuable quality, initiative.

To dispense approval or dissaproval is very difficult. Only he is capable of this who is thoroughly grounded in the subject matter and who openly expresses his opinion without self conciousness. Many leaders do not praise at all because they wish to veil their inability to differentiate behind an austere mask. Others praise everything to make themselves beloved. Then they are not taken seriously by their subordinates. A subordinate of sterling worth does his work without praise. But his effectiveness is increased if his efforts are appreciated. Leaders who combine great abilities with human qualities cast an inspiring aura about them.

Though we have so far tried to picture the ideal modern military leader this will become clearer when we show how he works in the field. The chief error of premature and lay critics is that they have no clear picture of this work. For example they repeat the now trite phrase: "If the younger Moltke had made the right wing stronger on the West front in 1914, as Schlieffen proposed, we would have won the War." They show thereby that they have never read what the older Moltke thought about field operations in war: "The material and moral consequences of every great battle are so extensive that they create a different situation, a new basis of departure. No operations plan can extend safely beyond the first contact with the main forces of the enemy. Only the layman believes that an original plan conceived in all its details can be pursued throughout the course of a campaign. It is rather a matter of perceiving and dealing with special cases in the fog of uncertainty of the situation, to evaluate the known correctly, to estimate the unknown, to come to a decision quickly, and then to execute energetically and with certainty."

Thus the leader is continually confronted with new situations each of which require a new judgement. In the complex of conflicting impressions he must find the solution pertinent to the situation. The only fixed element in this play of forces is his own will power. In the first instance

this must be directed by the mission given him. Often he will not have to decide how this can best be attained but whether the situation does not demand that it be given up altogether. If so there results a serious battle with his conscience, for he must know that his superior had carefully considered the matter before giving him the mission, and, if it now be abandoned, it may bring into question the success of the general operations. The only leader who will find the correct solution in such a case is one who has been so trained in strategy that he can think in terms of the general operations. Constantine von Alvensleben would never have arrived at the famous decision to attack the superior enemy on 16 August 1870 if he had not been able to create for himself a picture of the general operations. Therein we see the wisdom of Schlieffen's policy of making strategy the main subject in training. After his time the general staff officers were required to go more extensively into tactics. Several competent critics of the World War assert—perhaps not entirely unjustly—that this change was on the whole a disadvantage.

As already mentioned, in the estimate of difficult situations the personal will is the only support in a medley of conflicting evaluations. Therefore, strength of will has been particularly well developed in great leaders. As Moltke has said: "Persons who possess strong, profound and hidden emotions, who are not easily but deeply moved, are best suited to cope with the mountains of war's difficulties."

The leader creates this will from his own self assurance, and the consciousness of the morale of his troops and the adequacy of his material factors. Properly to evaluate these is very difficult. National and individual over-confidence lead to great error. Today the idea that a professional army is superior to the militia of an opponent has assumed such fantastic importance in some minds that they have lost all sense of balance. To be sure an army trained during a long period of service, according to the most modern principles and adequately equipped with modern armament, etc., has an undoubted combat advantage over an army of short service. But there is a limit to the physical and moral capacity of human beings, and it is possible to train militia in a relatively short time to operate machine guns and rapid

fire guns. The tactical conditions have become quite different than they were at Narwa where the famous shock group of 6000 men of Karl XII broke through and dispersed a ten times superior foe. Even Frederick the Great had the opinion that one had better avoid combat with an enemy of twice one's strength. Superiority in training is a factor of limited effect which constantly diminishes in value in the course of a campaign. No exaggerated importance should be attached to this factor.

The personal influence of the leader on officers and men is quite another matter. When the old Blucher galloped along the march column crying "Forward my children" both officers and men were inspired and gave their uttermost. In 1796 in Italy Napoleon knew how to stimulate his poorly nourished and demoralized army to the utmost efforts and unprecedented attainments. Successes in combat assure a faith in the leader which defeats do not impair. In peace time officers and men require a varied spiritual diet if the leader is to win their confidence. Artificial means such as fiery emotional speeches are lost on the German soldier; on the contrary, outward impassiveness impresses them if the "feu sacré" burns within. As Marshal von der Goltz says, such an attitude "often has the greatest moral effect." They are furthermore impressed by the interest of the leader in their own needs, and by a natural sympathetic attitude. There is naught of currying favor in this. Only the leader who knows how to maintain reserve is respected by the men. Moreover the officer will only respect him if he knows that the leader has the interests of the army at heart, that he works for it hard day after day, and that he brings understanding to his job and pursues it fruitfully. Besides this he can demand a certain friendliness and well wishing—qualities possessed in such great measure by such personalities as Blucher and the older Moltke. It is a mistake to suppose that one can gain the love of troops by making demands on them which are easy for them to satisfy. A personnel animated by an excellent spirit wishes to have high standards set for it. It loses in morale if it is not kept sufficiently occupied.

In estimating a situation a leader must practice sanity and realism. This holds for the degree of credibility to be

accorded to separate reports. Cool and lucid natures will more easily form a true picture than the more lively fantasy loving characters. The latter are in danger of injecting their own desires so that the result is far from the actuality. A healthy optimism should so far possess the leader that he senses the moments unfavorable for the enemy. This must not go so far as to result in his counting on his opponent making improbable mistakes. However, the World War contains many examples in which a sane optimism served as a support in a difficult situation, and others in which incomplete and weak decisions resulted in over-estimating the enemy. Whoever wishes to arrive at a clear picture of the effect of optimism and pessimism needs but study the psychology of the leaders on both sides in the days of the battle of the Marne.

Frederick the Great demanded of his generals that they "be active and indefatigible" and that they "free themselves of all laziness of body and mind." Clausewitz expressed the same thought in the words: "it depends whether all powers that are given to us be brought to bear in their highest degree." By energy and speed the troop leader doubles his strength. Lost time is never to be regained. This fact hangs like a sword of Damocles over every responsible leader. Yet the conception of time is a variable. The decision of a company commander precipitated into a fire fight must be made more quickly than that of an army commander in an operation extending over several days. Therefore Field Marshal von der Goltz was correct in his opinion before the World War that: "One must question the precept that quick decision is important for the soldier. In war there is always time to consider—more than in peace, and the frequent urge for quick decision is not only unnecessary but harmful because it leads to superficiality." There are enough examples in military history in which waiting brought a greater success than premature execution. One can compare Austerlitz with the battle in Lorraine in August 1914. Such awaiting has nothing in common with inactivity because its purpose is to strike the foe devastatingly. It does not surrender the advantage, for it is a tense activity, often a forerunner of success.

Finally one must not neglect to notice a particular type of activity which caused Wellington's reputation in Spain. This is the use of all possible means to damage the enemy—a product of restless imagination, not concerned merely with attack and defense, but concerned with raids and the destruction of the enemy's rear lines. Thus the preponderant and well-trained French army wore themselves out against him. Hunger, climate and sickness damaged the French more than the Spanish-English bullets. Then—too weak for attack—the French withdrew to the strong Torres-Vedras position, more like a withdrawal from a lost battle.

"If you are strong in spirit and are able to enforce your will in the moment of doubt and fear do you not then possess the highest, the kernal of the virtues of leadership?" — so Clausewitz wrote to his friend Gneisenau. How often was this found to be true in the World War! Freedom from the will of the enemy is not secured through the thoughts which come to the leader at the height of his problem, but by carrying through difficult situations, by injecting a decision which supplies solution where there has been but lack of counsel. One may think what one will concerning Falkenhayn's leadership, yet no one can ever rob him of the credit of grasping the reins in a moment of planlessness, and resolutely throwing himself into the breach. I remember well that the subordinates breathed more easily. Thereupon everything was carried forward confidently. We know also that Joffre's reputation does not rest on the decision to envelop the German right wing. This decision was already indicated by the situation. His reputation rests on the fact that he managed at all to bring to a halt the withdrawal of the greatly demoralized French Army. This decision was not born of deep strategic consideration but of the simple perception of a soldier (also shown by Blucher before the battle of Katzbach) that further withdrawal meant danger of dissolution. This example shows, moreover, how the morale of an army is affected by prolonged withdrawal.

Whoever reads in the book: "Generals, peddlers, and soldiers" (Maxim Ziese—Frundsberg, Publishers) the dramatic portrayal of events at the French high command when

the German attack of February 1916 reached close up to Verdun will learn of a true leader, he who prevented the carrying out of the decision to evacuate the right bank of the Meuse. In this connection one thinks of the quiet, modest, almost unknown general von Moltke at noon on 3 July 1866 at Imperial Headquarters. At this time there arose a clamor for withdrawal due to the absence of the Army of the Crown Prince. Moltke said to the King: "Your Majesty, there will be no withdrawal here!" At such moments is revealed a "godlike spark" in the true leader who forces the others to victory.

When the leader has made a decision he has a feeling of relief, of renewed assurance. But soon new moments arrive which might cause him to vacillate. For example, a presupposition is not borne out by subsequent events. Then comes the harrowing moment of doubt—whether to stay with the decision or change it. A sober and practical leader will be averse to change, having constant regard for the troops and realizing that counter-order is almost always followed by disorder. Clausewitz gives a certain counsel for such moments: "One should always recall the general purpose with which one started." Such reconsideration usually shows whether persistence or elasticity is required by the situation. Adherence to the decision is sometimes rewarded in peace time exercises with an "excellent solution" even if the premises have changed entirely in the meantime. This is dangerous because it fosters rigidity which has often been disastrous for leadership. Such rigidity arises usually from superficial worship of a catchword. Instead of clearly bringing to mind again the mission and situation, action is perhaps based on some earlier remark of a superior. So also the famous phrase: "When I do not know what to do I attack" is invoked by people who have never learned logically to evaluate a tactical situation. It is this that we honor the great leaders for, that they are able to adapt the decision to the constantly changing situation, while never losing sight of the goal. Napoleon's great enveloping movements at Jena, Moltke's gradual wheel towards the Belgian border before Sedan, Hindenburg's new expedients daily at Tannenberg, all show how the elasticity of decision of these men conquered their difficulties.

The foregoing thoughts make no claim to completeness. They purport merely to serve the purpose of characterizing true military leadership, and branding its false semblance as such. An officer whose perception thereof is sharpened hereby will know how to direct his further improvement. In him, moreover, a true understanding will arise of how exceedingly difficult has always been the problem of the military leader. Hence he will deal justly with the leader of the past and tell himself that it is easier to criticize than to surpass.

Section 4

BOOK REVIEWS

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Phipps: **The armies of the first French Republic and the rise of the Marshals of Napoleon I.** Vol. III: The Armies in the west, 1793 to 1797, and the Armies in the south, 1792 to March 1796.....122

Blin, Colonel.—**Apercus sur la guerre de 1914-1918.** [Notes on the War, 1914-1918.] 1932.....M 9403-E4-D.44-C

REVIEWED BY MAJOR R.C. SMITH

A brief resumé of the events leading up to the War and a birdseye view of the operations.

Of considerable value is the last part that gives in a dozen pages an outline of German and French organization in 1914 and the changes made in organization during the War.

Bouvier, Henri.—**Les combats du Godat.** Pages d'histoire de la 12e brigade (septembre-octobre 1914). [The combat at "Godat." Pages of history of the 12th Brigade (September-October 1914.)] 1925.....M 9403-J.44:4

CONTENTS: Preface; Avant-propos; Arrière-garde; La bataille du Godat; Guerre de siège; Un état-major de brigade: Le P.C.; Le général; L'état-Major.

REVIEWED BY MAJOR L.D. DAVIS

Among the French troops which took part in the retreat to the Marne was the 12th Infantry Brigade. Then one day came orders to turn about and march north, and on the 13th of September, 1914, the 12th Brigade found itself crossing the Aisne-Marne Canal, not far northwest of Reims, in the vicinity of a collection of country buildings known locally as "le Godat."

On the left of the 12th Brigade was the 251st Infantry, of the 69th Division; on its right was the 11th Brigade, which with the 12th, consti-

tuted the 6th Division, forming the left of the III Army Corps, of the Fifth Army.

The advance along this part of the front was stopped on the 13th of September by very heavy and accurate machine gun fire; repeated attempts to push on secured but small gains at great loss, and during the night of the 13-14, the 12th Brigade fell back to the canal. In the following days much severe fighting took place; repulses of German attacks to secure the canal, and limited objective attacks by the French, in which the 12th Brigade took part. Then came a period when both sides gave their time to improving their dugouts, and the fight was mostly a matter of shelling. Finally, along by the end of October, some six weeks after the brigade had arrived at "le Godat," even the shelling came only at longer intervals, and comparative quiet reigned.

It was the mission of the 12th Brigade to hold the bridgehead at "le Godat," and the author undertakes to describe the part played by the officers, more especially that of the brigade commander, General Lavisse, an officer whom we learn was greatly loved and admired by all ranks of his command. There is no description of tactical operations, nothing is told of how the defensive fires were organized, of the organization of attacks or counterattacks. The author is writing of the operations of morale, battlefield leadership; he wishes to bring out that the officers carry a heavy load in the responsibilities that are theirs: it is his purpose to show that much of the success won there on the Aisne-Marne Canal by the valiant 12th Brigade was due to the character and leadership qualities of its commander, General Lavisse.

These pages from the history of the 12th Brigade show once more that infantry in which has been instilled high moral courage, the unconquerable will not to give way, is neither a thing of the past nor of less importance on the battlefield.

Bywater, Hector C. and Ferraby, H.C.—**Strange intelligence.** Memoirs of naval secret service. 1931.....M 8204-C.73-E5-E

CONTENTS: The hidden menace; The men who did the work; While Germany prepared for war; "Selling the dummy"; "The song of the sword"—and howitzers; Hue and cry!; Why Jutland was indecisive; Some notable "scoops"; Probing dockyard secrets; "Uniddling the sands"; Famous "spy" trials; Watching the high seas fleet; The men who heard the U-boats talk; Adventures in counter-espionage; The lighter side of I.D. work; Fighting the wreckers in America; Gambling on "the day"; False dawn; Index.

REVIEWED BY LIEUTENANT COLONEL J.S. PRATT

"Strange Intelligence" appears to be a popular disclosure of certain phases of British naval intelligence operations prior to and during the World War. The book is interesting not only from the espionage angle, but also as an elucidative of some of the fundamental causes of the great conflict. British operations constitute, of course, the basic theme of the book, although many interesting and illuminating sidelights on German and Allied intrigues also are presented.

The authors discuss the organization and development of the British pre-war naval espionage service in German territory and its continuance throughout the duration of the War. The details of espionage objectives and the general methods of obtaining authentic information of them are disclosed in a most interesting style. Like all publishable books on intelligence operations, the authors, having due regard for the health and happiness of interested parties, refrain from discussing many undercover operations that exerted a potent influence on world events. The book, however, gives one the impression that its authors know whereof they speak, and one has little difficulty in surmising that they played some active and important part in the drama of intelligence unfolded before the eyes of the reader.

The book is most interesting and readable. The elucidation of events as they appear in the book, so far as it goes, seem to bear the stamp of authenticity. The well-known reputations of the authors as authorities on naval construction, tactics and strategy, tends to confirm this opinion.

"Strange Intelligence" will be of technical interest to all those interested in espionage; it will be of general interest to the lay public.

Castelli, General de.—**Cinq journees au 8e corps 1914**. Souvenirs de guerre. [Five days with the VIII Corps 1914. Memoirs of the War.] 1930.....M 9403-J.44:4

CONTENTS: Préamble; Lever de rideau, 14 août 1914; Bataille perdue, 20 août; Bataille gagnée, 25 août; Décision grave, 19 septembre; Fermeture de la brèche sur les Hauts de Meuse, 1er octobre; Croquis.

REVIEWED BY MAJOR W.H. WILBUR

An account of the operations of the French VIII Corps from 9 August to 10 October 1914 with special emphasis on the events on August 14th and 20th, August 25th, September 19th and October 1st. The author commanded the VIII Corps during the period covered by the book, but was relieved of his command at the end of the period (October 10). The book leaves much to be desired in the matter of precise statements of orders and events and is lacking in satisfactory maps. It is apparently written as a justification, and is so written as to appear more to the casual civilian reader than the military student.

The book contains incidental information that has a bearing on infantry capacity, in combat and on the march, as an indication of the extraordinary burden placed on that arm, viz:

LOSSES IN OPEN WARFARE

August 20—VIII Corps lost 8,000 men, the greatest losses in the following regiments:

56th Inf.—1,150
85th Inf.—1,137 } Casualties in one day—operation an attack
95th Inf.—1,067 } followed by hasty withdrawal.
134th Inf.— 750

See pp. 34, 35.

September 25

134th Inf.—1,300 casualties in one day—operation an attack and withdrawal after counterattack.

See p. 52.

This is an extraordinary example of march performance, in the case of the 15th Division which marched 45 miles in 40 hours (pp. 85-89).

D'Amonville, Commandant.—**Tradition et progres.** Cavalerie d'hier, cavalerie d'aujour'd'hui, cavalerie de . . . demain! [Tradition and progress; cavalry of yesterday, today and tomorrow.] 1931 .....M 406-C.44

REVIEWED BY MAJOR N.B. BRISCOE

This pamphlet of 47 pages starts with the statement that "The cavalry is, without doubt, the arm which has drawn the greatest discussion since 1914" and that at times "its maintenance among the arms of the modern army has been in doubt." The necessity for surprise in warfare and the consequent need for highly mobile troops, either horses or mechanized, is recognized, and without engaging in the horse-motor debate, the author goes right down through history with accounts of the value of "dragoons."

He quotes an article (1902) of General Negrier, "In all epochs, commanders have been forced to add to their cavalry troops less well mounted, but, however, capable of rapid displacement and capable of fighting as infantry. Our Dragoons are the result. On two occasions they were changed little by little into light cavalry, leaving the service for which they had been formed. However, this service has always been so necessary that all armies have been forced to reconstitute troops destined for that use."

History shows that: (a) The main reason for the existence of dragoons is to have a powerful mobile force principally to fight on foot; (b) In all times, the presence in the cavalry itself of strong mobile fire power has been indispensable.

The derivation of "dragoon" is explained thus: When this portable fire-power appeared first in Italy or Germany the word "tralure" (Italian) or "tragen" (German) meaning "to carry" was applied to it, and from that came the French "dragon" (and our "dragoon"). In every case the idea has been rapid manoeuvre mounted and combat afoot.

Dated quotations show that somebody in 1523 resented "arquebus men" in the cavalry, that in 1544 the "mounted arquebus men fought on foot," that in 1555 the dragoons marched rapidly, dismounted, and intrenched. Others are quoted and finally in 1689 the dragoons became part of the cavalry. At Entzheim the dragoons on foot took a wood, key to all the enemy position, and then mounted and charged with the cavalry.

The author follows these citations of the dragoons through one commander who "wished they were less well mounted because they left too many men to guard the horses," to the point where the dragoons were expected to fight both afoot and ahorse. He cites Turenne, Maurice of Saxony, Frederick II, their employment of cavalry. Frederick invented (or discovered) the charge at the gallop. He goes on to Napoleon and his employment, his plans for "a division of dragoons" for the invasion of England, each man to be selected for both fighting ability and horsemanship since the horses were to be procured in England—truly a "carried" cavalry.

The list of operations of Napoleon's cavalry includes all possibilities even to "inundating" parts of the country with cavalry—and "the last years of the Empire are characterized by a progressive adaptation of all the cavalry to all the cavalry missions," bringing the dragoon to be almost light cavalry, and the light cavalry adding fire power, as Napoleon's Commentaries say, "All the cavalry should be furnished firearms, and should know how to manoeuvre on foot."

The period from Napoleon to the Franco-Prussian War was full of lessons for the French cavalry, none of which were absorbed. Balaklava showed that old cavalry formations were futile against the firepower of the period. The Civil War in the United States gave opportunity for a study of the latest test of tactics and firepower, but in 1870 the French cavalry (quotation from General Negrier) "showed nothing of its strategic role, nothing in the service of reconnaissance, nothing in the service of security, was poorly trained and useless in its tactical role," though it had the latest model firearms.

In 1900 Major Riffault wrote, "The cavalry is the mobile stock of a gun and carriage of a cannon, however retaining, for occasion, a saber, piercing and sharp," and thereby started an argument. afoot versus ahorse, that lasted until 1914—and the test.

The first machine gun unit of the French army was organized in the cuiassiers, but the cavalry people who were convinced were few. And, in 1914, the French cavalry reconnoitered well, used its cannon effectively—but met the firepower of cyclists and machine guns, and was woefully disappointed that the German cavalry would not fight it out with cold steel. Lucas had told them in 1902 that, "The cavalry spirit . . . consists in the air of enterprise, the need for action, in the art of the opportune employment of means so that the action produced a complete effect."

When the Western Front became fixed, "theoretically, the hour of the cavalry had passed." But "light groups" of cavalry, equipped like the ancient dragoons, served as infantry and many officers and noncoms went to other branches. A return to "cavalry" and "dragoons" resulted from that four year experience, only the latest model of dragoon is truly "carried," being porté in a motor carrier, and we find the cavalry division including both horsed regiments and "dragoons portés."

The new characteristic of cavalry is "to see and to fight; combat on foot by fire is the normal method; The 'power of fire' is combined with

'mobility and manoeuvre'; it is mechanical means which brings to the cavalry the supplemental force which is indispensable."

A discussion of modern cavalry organization problems calls motors a siren which may destroy the discoverer if more is demanded than it can give.

The firepower problem is simple; all cavalry armed with fire arms; dismounted cavalry fights as infantry; cavalry strong in attack and mighty in defence; machine guns, automatic guns, rifles, mortars, rifle grenades, hand grenades, light cannon, heavy machine guns. The great difference is the means of transport.

Motors on wheels are discussed, with their limitation to passable roads. The motorcycle to be used in groups, like the cyclist troops, has not been the subject of tests but has the same limits as other motored wheeled vehicles. The automobile for "all terrains," a wheels-in-front-tractors-behind can do many of the things the wheeled motors cannot do, but are still lacking in that "fluidity" possessed by the horse. The greater speed of the motors is only valuable in the rear areas, as the necessity to see, where out in front, reduces the motor speed to the speed of horses, and the seeing cannot be anywhere nearly as well done from the motor as from the horse. The objection to the horse is the small useful load and the problem of forage. The bicycle has the same objection as to load as the horse, the supply problem is less, and, though not so good across country, it gives a lot of "fluidity" on partially destroyed roads. The great objection to the cycle is that the rider is working all the time, not resting as the horseman or motor carried man does while travelling.

The author sums up a discussion of the relative merits of these different means with the statement, "In brief, it is necessary to employ on cavalry missions all the armored vehicles—and exclusively those—which have a real aptitude for mobility and manoeuvre, which can accompany the cavalry on all the routes it must use, and which, in conjunction with it, are susceptible of engaging by surprize."

Thus we see a cavalry made up of cavalry, "fluid" on their horses; dragoons porté on motors, motorcycles or bicycles, with the maximum of machine guns and other accompanying weapons similarly transported; the cavalry and the dragoons operate accompanied and supported by armored motor vehicles; the different services operate mostly by motor convoys.

Under organization, "suppleness of manoeuvre and power of combat" are the objectives, and at present the cavalry division commander has 300 automatic rifles, 112 machine guns, 43 cannons, 37-mm., 14 Stokes mortars, 36 guns, artillery, but he has also 6500 horses, 650 horse-drawn vehicles, 22-25 miles of motor vehicles, and with all this, the problem of moving it in convenient units, safe from air attack, with great decentralization and at the same time power of rapid assembly. "It thus comes about that the tactician who has been the first to claim the extreme urgency of a great number of motors in order to transport ever faster the means of fire ever more powerful, is the first to draw the attention of the organizer to the necessity not to diminish the elements of security, even though these elements be very antique, even though it be necessary to retain a great number of horses, as these alone possess that fluidity necessary for building the network of security by information." And who is better equipped or better trained for surrounding this mass of motors with the reconnaissance necessary to attain "the time needed to make its dispositions."

A caution to instructors to be on their toes, to the cavalry not to live up to the accusation that "the cavalry, having proclaimed its superiority, sleeps carelessly and dreams," that the horse changes little in a generation while the motor changes ceaselessly, not to be carried into "malformation" of units by enthusiasm, and that "cavalry" and "dragoons" are interdependent.

Thus the cavalry of 1930 is the alliance of the horse and the machine, and it appears more than ever to be the specific arm for "covering," it has the means of reconnaissance, and it can operate by surprise at the sensitive point of the field of battle, and always carries the power for a decisive blow.

Fuller, Colonel J.F.C.—**Lectures on F.S.R. III.** (Operations between mechanized forces.) 1932.....M 506-A4.42

REVIEWED BY LIEUTENANT COLONEL H.M. GRONINGER

The purpose of this book is to jog the minds of thinking soldiers. It accomplishes that purpose.

The author, who is exceptionally well qualified to write on the subject of mechanized forces, has given his mind an excursion into the field of the possible, avoiding the field of the fanciful. He has attempted to show what may happen not what will happen.

The reading of this book will act as a mental cathartic to any one inclined to be dogmatic.

Lippmann, Walter.—**The United States in world affairs.** An account of American foreign relations 1931. 1932.....327.73 (A)

CONTENTS: Introduction; The economic depression: The evolution of American opinion prior to December 1916; The doctrine of self-containment: The seventy-first Congress; The deepening depression in the first half of 1931; A generalized view of the effects of the depression; Conditions in Latin America; Attempts at economic stabilization; Critical developments in Central Europe; Conditions leading up to the moratorium; A respite from reparations; The British crisis; The American crisis of October, 1931; The Hoover Laval conversations; Collaboration with Europe: Armaments and the League; The Manchurian affair; Epilogue; Selected bibliography; Appendices; Index; Maps.

REVIEWED BY LIEUTENANT COLONEL W.C. MCCHORD

The following statements, taken from the introduction, give some information as to the purpose and scope of the work.

> "This is the first volume of a series, which the Council on Foreign Relations proposes to publish annually, giving an account of American foreign relations during the preceding year, . . . It is the hope of the Council that an annual history prepared almost contemporanously with events, and published while their influence is still active, may in some measure help to orient the public judgment."

The period covered is generally from the convening of Congress in December, 1930, to the convening of Congress in December, 1931.

The work is devoted largely to economics and finance of a national and international character. Two of the fifteen chapters are, however, devoted, one to the subject of "Collaboration with Europe: Armaments and the League" and one to "The Manchurian Affair."

In a detailed manner the following subjects are discussed: the depression and its results; effects of the doctrine of "Self-Containment" as attributed to the Seventy-second Congress; the financial and commercial situations of several foreign countries; the Moratorium; and reparations. The various utterances and messages of the President and others on these subjects are fully presented in these discussions. The chapter "Collaboration with Europe: Armaments and the League" is devoted largely to sustaining or proving that the American government, supported by an influential part of American opinion, eventually has and is more and more pursuing a policy of collaboration with the League of Nations, a policy which heretofore had been regarded as objectionable to the American people.

The chapter on "The Manchurian Affair" outlines the actions of the League of Nations and that of the United States during the latter part of 1931 on the subject of the activities of Japan in Manchuria and the resulting protests by China.

The book contains an extensive bibliography and a detailed index. Some sixty pages of the three-hundred and seventy-five included in the volume are devoted to appendices. These appendices include: a "Chronology of Important Events Affecting American Foreign Relations 1931"; the texts of several messages and statements by the President and Secretary of State on the subject of foreign relations; "Indices of production in important countries"; price movements; security price movements; and a table showing the value and a comparison of the value of exports from the United States for the years 1929, 1930, and 1931.

The work is believed to be highly authentic. The amount of data contained makes it valuable as a reference or source of information on the subjects covered. It will be of interest to an officer especially interested in the negotiations pertaining to the foreign affairs of the United States.

March, General Peyton C.—**The nation at war.** 1932....M 9403-E4-C.73

CONTENTS: Preface; The United States Army when we entered the war; Grand strategy of the Central Powers, and the military situation, April 6, 1917; My appointment as Chief of Staff of the army; Reorganizing the War Department; Why General Wood did not go to France; The great shipping saga; The Siberian Expedition; The Archangel Expedition; The Western Front and Mr. Lloyd George; Industrial mobilization; Industrial demobilization; Goethals and the supply system; The air service; Welfare organizations and their relation to the military establishment; Censorship vs. publicity as a military asset; The draft law; The A.E.F. from the War Department records; General Bliss and the Supreme War Council at Versailles; Demobilizing the army; Reorganizing the army after the War; Congress and the War Department; President Wilson as a War Commander-in-Chief; Newton D. Baker—Secretary of War; Index.

REVIEWED BY MAJOR P. HAYES

In this book the reader will find an account of what was done by the War Department in the war with the Central Powers. One will find also an intimate discussion of several incidents during that period which at the time caused considerable comment, such as "Why General Wood did not go to France," "The Archangel Expedition," etc. While the book is written in a personal vein and represents the personal account of the war time Chief of Staff, still it can be considered as authoritative from the very fact of the position occupied by the author and the records made available to him. The author did not quote from memory, but from the files of the War Department to which he had access. The author has attempted to give a "meticulously accurate" statement of what took place.

Throughout the book there is a personal expression, entirely in keeping with the characteristics of the author. To many readers this personal viewpoint or touch will appear to be over emphasized to the detriment of the result hoped to be obtained by the author.

The book is well written, forceful, and gives information of utmost interest; certain information which is "brought to light" for the first time.

The "table of contents" gives a very clear picture as to the scope and contents of the work.

This book furnishes a source for a background of a study as to the part taken by the American Expeditionary Force in the War. While the information in it will not have direct application to the G-2 and G-4 Sections, still it affords material which can be used in the G-2 Section in its World War Historical studies and in the G-4 Section for a background as to the broad subject of Supply. It may be used also in the study dealing with War Plans.

Koeltz, Lieutenant-Colonel L.—**Le G.Q.G. allemand et la bataille de la Marne.** [German General Headquarters at the battle of the Marne.] 1931.....M 9403-J.44:4N5

CONTENTS: Avant-propos; Vers la bataille (30 août-5 septembre); La bataille (6-9 septembre); La retraite (10-14 septembre); Considérations sur la conduite des opérations par le Haut Commandement allemand. [The morrow of victory; Von Moltke turns his marching wing toward the south (30 August); Von Moltke aims at a decision between Meuse and Aisne against the French center (31 August); Von Moltke strengthens his attack against the French center (1 September); He decides to push the French toward the southeast by cutting them off from Paris (2 September); March of the German right and center toward the Marne (3 September); Breakdown of the plan for a general push against the French armies, Von Moltke substitutes his former maneuver against the French center (4 September); Inconsistency and lack of supreme command (5 September); The curtain is torn asunder (6 September); Heavy fighting by German armies. Complete incapacity of the High Command (7 September); Forebodings of defeat (8 September); Defeat (9 September); The retreat of Von Bulow and Von Kluck (10 September); Von Moltke withdraws his center to avoid a catastrophe (11 September); Von Moltke coordinates the withdrawal of his armies (12-13 September); Epilog of the battles (14 September); General Von Moltke; Von Moltke's Staff; The army commanders; Fault or fate.]

REVIEWED BY MAJOR R.C. SMITH

Colonel Koeltz has presented in this book a keen analysis of the German GHQ during the days leading up to and during the battle of the Marne.

The work is fully supported by citations from sources, and an annex gives many of the most interesting documents.

Of course the author is a Frenchman and the analysis may be tinted slightly by that fact, but it is written in detached and impartial vein.

The book is recommended to any student of the battle of the Marne, to any one studying the conduct of large forces in campaign, and to students of the psychology of leadership.

Michel, Commandante René.—**Monthyon.** Les 5 et 6 septembre 1914 a la 55e D.R. [Monthyon, 5-6 September 1914 and the 55th D.R.] 1931.....M 9403-J.44:4

CONTENTS: Introduction; A l'aube d'un jour de bataille; La VIe armée se déploie pour la bataille de l'Ourcq; La rencontre; La reconnaissance offensive allemande; La 110e brigade cherche à s'emparer de Monthyon; Le IVe corps de reserve allemand dans la bataille autour de Monthyon; La situation devant Monthyon à 17 heures; Reprise de l'attaque de Monthyon; La retraite allemande; La nuit du 5 au 6 septembre du côté francais; La poursuite vers l'Ourcq; L'evenement de Varreddes; Intervention de la IIIe division allemande; La 55e division de réserve s'immole sur le plateau de Barcy; Enseignements; Sources consultées; Tables des croquis. [Dawn of the day of battle; The VI Army develops for the Battle of the Ourcq; The meeting; The German reconnaissance in force; Attempt of the 110th Brigade to capture Monthyon; The IV Reserve Corps (German) in the battle around Monthyon; The situation before Monthyon at 5:00 PM, 5 September; Renewal of the attack on Monthyon; The German retreat; The night of 5-6 September on the French side; The pursuit towards the Ourcq; The issue at Varreddes; The intervention of the 3d Division (German); The 55th Reserve Division sacrifices itself on the Barcy plateau; A critique.]

REVIEWED BY MAJOR C.H. CUNNINGHAM

In the introduction, the opinion is expressed that the training of officers is devoted too exclusively to the study of the different phases of offensive and defensive battle with an enemy in position or acting in a known direction. While this is a necessary element of military training, true military preparedness must insure the training of available military forces for combat during the opening phases of a future war. During these initial stages, when warfare of movement prevails, meeting engagements will occur where the enemy appears suddenly on unexpected terrain or from an unexpected direction. The study of this phase of the Great War is therefore an invaluable source of lessons on which to base future training.

The author's monograph presents in great detail a description of the action of the 55th Reserve Division on 5 and 6 September 1914, the units adjacent thereto and the elements of the German forces opposed thereto, including accurate descriptions of terrain and a candidly striking exposé of conditions of morale, command, and troop leading on both sides.

The action of this reserve division is cited as more important as a source of useful lessons because of its resemblance in recruitment to the majority of larger units which would be placed initially in the first line in event of future war. The interest of the author and his knowledge of his subject are all the more credible from the fact that the monograph is dedicated to his father, commander of an advance guard company of the 55th Reserve Division, who was killed in action within a few minutes after the surprise by the Germans on 5 September.

"Monthyon," 5 September and "Varreddes," 6 September, as fought by the 55th Reserve Division, are episodes of the Battle of the Ourcq, the opening phase on the extreme western flank of the Battle of the Marne, 5-9 September 1914. On 5 September, the Sixth Army (Maunoury), which was in defensive position about 20 kilometers northeast of Paris covering that city, began its development to the east in compliance with General Joffre's famous general operations order No. 6, preparatory to attacking in conjunction with the English and Fifth French Armies on 6 September. In compliance with the provisions of this order (dated 10:00 PM, 4 September) and of operations order No. 26, Sixth Army (dated 12:00 midnight, 4-5 September) the 55th Reserve Division (element of the 5th Group of Reserve Divisions [De Lamaze]) was ordered to march to the east at 6:00 AM, 5 September in order to clear its area for the passage of elements of the VII Corps on its left. No echelon of command, according to the orders as issued, had any expectations of meeting the Germans on 5 September; the opera-

tions for that day were planned as a development to the east, preparatory to an attack on the 6th on the flank and rear of von Kluck's First Army.

The information of the enemy was fairly accurate except that the presence of the IV German Reserve Corps (which bivouacked for the night 4-5 September in the vicinity of Nanteiul-le-Handouin and marched early on 5 September some 8 kilometers nearer the Marne with the general mission of protecting the right flank of the First German Army north of the Marne) had not been discovered. The single French plane dispatched over this area on the morning of 5 September was shot down by the Germans at Varreddes, but its failure to return did not cause any special or further reconnaissance on the part of the French.

The 55th Reserve Division was near the right (south) flank of the Sixth Army disposition of forces. On its right were a Moroccan Brigade of Chasseurs and a cavalry brigade. The 56th Reserve Division was on its left (north), and echeloned slightly in advance, then the VII Corps (63rd and 14th Divisions) echeloned to the rear. The 55th Reserve Division marched an hour and a half late, notwithstanding the fact that division orders were issued within one hour, and brigade orders within 20 minutes after receipt of orders. The march objective was changed by army orders after the march had started. The 55th Reserve Division, the Moroccan Brigade on its right and elements of the 56th Reserve Division on its left were surprised by the German IV Reserve Corps, whose presence in their front was not even suspected. The German IV Reserve Corps (von Gronau,) informed by its cavalry of approach of French columns from the west had promptly conducted a reconnaissance in force by attacking in a general direction which brought it against these French units, between which the engagement on 5 September,—Monthyon—was fought. Aided by terrain, and consequent direction of German offensive blows, the 55th Reserve Division held at the end of the day about the line of its advance elements when surprised; the units on both right and left were driven back.

The IV Reserve Corps (German), having gained the information it needed, retired after dark, although no information reached von Kluck until midnight, 4-5 September, and only then through a telephone message from a staff officer of the II Corps, informing one of von Kluck's staff that the IV Reserve Corps had attacked superior forces on the 5th near Monthyon and was retiring. The II Corps was immediately put in motion northward to support the IV Reserve Corps, the leading elements of the 3d Division arriving at Varreddes, on the left of the IV Reserve Corps, about 9:00 AM.

The French did not maintain pressure during the night, conducted too little reconnaissance even to discover the intentions of the Germans, and advanced late and slowly on the morning of the 6th in pursuit of the Germans who had disappeared from their immediate front. The approach of the elements of the 3rd Division from the south was reported by army aviation. The 55th Reserve Division was turned southeast against Varreddes and was heavily engaged all afternoon, suffering heavy losses in its repeated attempts to advance across flat open terrain, and succeeding only in fixing the left flank or hinge of the German First Army. The losses in one brigade for the two days' operations amounted to about $33\frac{1}{3}\%$. Supplies had been exhausted. The division was withdrawn after dark on the 6th, and replaced by the 45th Algerian Division.

The author's description of these operations is excellently presented. His critique is highly instructive.

(a) Great emphasis is placed on the factor "time" in warfare of movement. Higher echelons cannot expect the regiments and battalions which finally execute their orders to accomplish miracles in order that the plan of operation may be realized. General Joffre spent the entire day on 4 September checking on details to see if resumption of the offensive was possible, including visits to army commanders, and especially the securing of British cooperation. His order, issued at 10:00 PM, had to pass through four echelons of command to reach regiments, some of which actually moved at daylight on the following morning, while other units were late.

The results of such races against time are incomplete orders, improper march dispositions, and disrupted general disposition due to delayed units.

(b) The reconnaissance measures of the French and German forces, both cavalry and aviation, together with the exploitation made of information secured, are covered at length. The characteristics of meeting engagements, irregularity of contact, instability of any local situation, are pointed out, followed by the influence of high command if so placed to learn the situation promptly and to influence the engagement by direction, coordination, and exploitation of favorable situations. After the meeting of the two forces on 5 September, there is practically no example of the functioning of command on the French side in any echelon higher than the brigade. On the other hand, General von Gronau rendered an inestimable service to the German Army by the prompt and decisive handling of his corps, forcing the French to reveal prematurely the strength of their forces on the German flank.

(c) The difficulties of the functioning of command by higher echelons in warfare of movement are supported by examples in the engagements under consideration, and apt recommendations submitted for similar occasions in the future. The necessity for and advantages resulting from the control of such combat by higher echelons is clearly cited. On 6 September, the 55th Reserve Division expended itself in brave, but hopeless frontal effort against the German 3rd Division at Varreddes. After the initial orders, no further divisional action was apparent. The haste necessary in effort to prevent the German division from crossing the Marne and the uncertainty of the actual situation on the front at any given time prevented any further divisional control. However, if the situation had been viewed from the corps (or corresponding echelon—group of reserve divisions), the main effort would not have been made on this front.

(d) Great emphasis is placed on the factor of morale. Throughout the entire monograph and critique, a candid exposé of the physical and moral state of the rank and file is stressed. The ability to regain such morale is a national asset and should be a factor in any training program.

(e) The author turns to German sources and to opinion of German command for his two most clearly expressed opinions for French success:

> (1) General von Kluck: "That men who have retreated for ten days, who have fallen to the ground half-dead with fatigue, can take up their rifles and attack at the sound of the clarion,—is something of which we never learned to take account in our war plans."
>
> (2) Author: "In all the echelons of German High Command at the battle of the Marne, we find proofs of this lack of cooperation between commanders and of this disdain of adjacent units, which led them moreover to defeat."

Murray, Kenneth Malcolm.—**Wings over Poland.** The story of the 7th (Kosciuszko) Squadron of the Polish air service, 1919, 1920, 1921. 1932.....M 409-J.438

REVIEWED BY MAJOR G.E. STRATEMEYER

"Wings Over Poland" is an exceedingly colorful account of the thrilling and unorthodox warfare conducted by Poland against Red Russia. It gives a very interesting and instructive picture of the operations of the ill-equipped armies of Poland in their early attempt to stop the Bolshevik invasion of that country during the two years, 1919-1921, with particular emphasis on the activities of Poland's aviation, especially the 7th (Kosciuszko) Squadron (consisting principally of American war pilots).

The results to be attained by a small air force against enemy depots, troop trains, gun emplacements, bridges, river boats, and ground troops on the march is unusually well pictured. The enemy (Red Russia) had no aviation in support of its operations. Later, as the Red invasion progressed, the reaction to the Polish air activities by the Russians is vividly shown. The Bolshevik Cossacks quickly dispersed and defended themselves against air attacks, whenever they heard or saw an airplane.

The 7th (Kosciuszko) Squadron was organized and commanded by Colonel Cedric E. Fauntleroy and later commanded by Lieutenant Colonel Merian C. Cooper and Major George M. Crawford, all of whom are well known in the U.S.A. Colonel Fauntleroy now is the manager of the Washington-Hoover Airport, Arlington, Virginia, and Colonel Cooper is a writer of note. The effectiveness of the squadron in its operations against the Reds is amply testified by the reward offered by the Russians for the capture of any member of the squadron dead or alive.

Mr. Murray, the author, was himself a member of the Kosciuszko Squadron. However, he did not join until the latter part of its operations. The story is compiled from the squadron log-book, from the Polish War Office archives at Warsaw, and from narratives from his comrades.

It is believed the book is instructive from a military point of view for the following reasons: (1) It clearly sets forth the results that can be expected from a small force of combat aviation supporting a weak, unprepared ground force against a greatly superior ground force which lacks combat aviation in support. (2) It gives the effectiveness of aerial machine-gun fire and small aerial bombs against troops on the march, river boats, ammunition and supply trains, gun emplacements, bridges, depots, and troop trains.

Osterreich-Ungarns letzter krieg 1914-1918.—Das Kriegsjahr 1915. Zweiter Teil: Von der Einnahme von Brest-Litowsk bis zur Jahreswende. [Austria-Hungary's last war, 1914-1918. Vol. III, The War year 1915. Part 2. From the capture of Brest Litowsk to the end of the year.] Text and maps. Vienna 1932.....M 9403-E4-E.436

CONTENTS: Pläne und Kräfteaufgebot für den Herbst 1915; Der Feldzug von Rowno; Die eroberung Serbiens; Die herbstschlachten an der italienischen front; Der ausklang des kriegsjahres; Der Spätherbst 1915 an der russischen front; Beilagen- und Skizzen-verzeichnis. [1. Plans and strength requirements for autumn of 1915; 2. The campaign of Rovno; 3. The conquest of Serbia; 4. The autumn battles on the Italian front; 5. The Russia front in late autumn 1915; 6. The close of the year 1915. Appendix Vol. III (Beilagen) contents: 32 maps, 20 sketches.]

REVIEWED BY MAJOR A. VOLLMER

[The Austro-Hungarian official history of the World War. This is the third installment consisting of two books, one of text, the other appendices. It covers the second part of the war year 1915 (For review of prior volumes, see QRML No. 46, pp. 108-111).]

From the beginning of September up to the middle of October 1915, numerous unsuccessful Italian offensives occurred on the Isonzo front, mostly in the area Flitsch-Tolmein against the Fifth Army under General von Boroevic. At other points it was the same. From the middle of October until the end of November the now historic 3rd and 4th Battles of Isonzo occurred. The apex was reached in the energetic attempt to break through on the Doberdo plateau. The troops achieved super-human results. For example, in the eight weeks of battle on the Podgara, the key point of Gorz, forty attacks were repulsed; at Oslavija thirty attacks were repulsed. On the Isonzo a hell was created r.o whit less extreme than anywhere on the West Front at any time. Systematic artillery preparation attained great importance; highly trained infantry counterattacks likewise became usual.

During this same period in the southern part of the Russian Theater in the area of Czernowitz to the Pripet forty-four Austro-Hungarian and four German divisions fought on a 560 km. front, at Czatorysk on the Styr, and at Baranowicze, the battles of Aleksinac, Lopuszno, and Panasowka in East Galicia.

The last chapter of this volume portrays the events in the Balkans, the forced retreat of Sarrail to Saloniki, the evacuation of the Dardanelles, and the beginning of the attack against Montenegro. Of especial interest are the plans of both sides for the year 1916. Those of the Central Powers were in opposition. Conrad von Hotzendorff wanted to attack Italy first of all. Falkenhayn wanted to attack Verdun. The controversies involved are treated objectively, considered from the standpoint of their causes, and cleared of every doubt.

Phipps, Colonel Ramsay Weston.—**The armies of the first French Republic and the rise of the Marshals of Napoleon I.** Vol. III: The Armies in the west, 1793 to 1797, and the Armies in the south, 1792 to March 1796. 1931.....M 94404

CONTENTS: Preface; List of authorities quoted; The armies in the west of France; The armies on the southern frontiers; L'Armée des Pyrénées occidentales and l'Armée des Pyrénées orientales; Index; List of maps.

REVIEWED BY MAJOR P.J. HURLEY

This work is an historical study of the armies of the early Republic other than those on the eastern frontiers insofar as these wars develop by experience men who became Marshals under Napoleon. After the overthrow of the Bourbons there was a great deal of opposition to the new government, particularly in the center and west and the larger cities of the south of France. These rebellious centers were reduced by force and a war with Spain ended favorably between 1792-1796. Relatively large forces were employed and a great deal of practical military experience was obtained by those who had the ability to command and were fortunate enough to escape the guillotine.

The wars covered in this book are of little use as a study of the art of war, because the text does not go into sufficient detail and the maps are of little value to a military student. They are given rather for the purpose of tracing the extensive military experience of soldiers like Angereau, Victor Massena, Launes, Hoche, Marceau, Grouchy, Berthièr, Murat, Moncey, Marmont and to some extent of Napoleon. In discussing the army of Italy the book brings out the fact that this army had been in operation for several years and Napoleon had served with it for a time as chief of artillery and had had much to do with the formulation of plans for the advance into Italy years before. And lastly when Napoleon became commander of this force, Kelleman and Berthièr had it well organized and its units commanded by soldiers of vast experience, many of whom became Marshals under the Empire.

Section 5

LIBRARY BULLETIN

BOOKS ADDED TO THE LIBRARY SINCE 1 JULY 1932

ACHILLES: **Psychology at work.** 1932 [M 501-G]

ALL the World's Aircraft, 1931. 1931 [M 603]

v.ALTROCK: **Taktik und Truppenfuhrung in kriegsgeschichtlichen Beispielen.** [Tactics and conduct of troops in examples from military history.] 1929 [M 503-A8.43]

AMERICAN Year Book. A record of events and progress for the years 1911, 1912, 1913, 1914, 1915, 1918, 1919, 1931. [973.916]

d'AMONVILLE: **Tradition et progres; cavalerie d'hier, cavalerie d'aujour-d'hui, cavalerie de—demain!** [Tradition and progress; cavalry of yesterday, today and tomorrow.] 1931 [M 406-C.44]

ARMY War College, 2d Div. Hist. Section: **Translations, War diaries of German units opposed to the 2d Division, 1918.** Vol. III. 1932 [M 9403-H6-C.73-G3-C2D]

BACON: **The concise story of the Dover Patrol.** 1932 [M 9403-L4-D.42]

BAELZ: **Awakening Japan: The diary of a German doctor.** Trans. from the German. 1932 [M 952]

BAKER: **A history of geographical discovery and exploration.** 1931 [910.9]

BEALS: **Mexican Maze.** 1931 [972]

BENARY: **Unsere Reichswehr.** [Our National Army.] 1932 [M 205-C.43]

BOLESLAVSKI: **Way of the Lancer.** 1932 [M 9403-J.47]

BOUVIER: **Les combats du "Godat"; pages d'histoire de la 12e brigade septembre-octobre 1914.** [The combat at "Godat." Pages of history of the 12th Brigade, September-October 1914.] 1925 [M 9403-J.44:4]

BOWERS: **Beveridge and the progressive era.** 1932 [973-B92 (BE)]

BRADY: **Canada.** 1932 [971]

BRENNER: **Your Mexican holiday. A modern guide.** 1932 [972]

BROWN: **The South and East African Year Book and Guide, with atlas and diagrams.** 1931 [960]

BUCHER: **In the Line: 1914-1918.** Trans. from the German. 1932 [M 9403-B4.43]

BULOW: **Memoirs of Prince von Bulow.** Vol. III: The World War and Germany's collapse, 1909-1919. Trans. from the German. 1932 [943-B92 (BU)]

BYWATER: **Strange intelligence.** Memoirs of naval secret service. 1931 [M 8204-C.73-E5-E]

CARR: **The Illini; a story of the prairies.** 1920 [977.3]

CASPARY: **Wirtschafts-Strategie und Kriegsfuhrung.** [Industrial strategy and the conduct of war.] 1932 [M 106-C.43]

de CASTELLI: **Cinq journees au 8e corps, 1914; souvenirs de guerre . . .** [Five days with the VIII Corps; memoirs of the war . . .] 1930 [M 9403-J.44:4]

CAVALRY School: **History of Cavalry during the World War.** 1922-23 [M 9403-G6C]

CAZEILLES: **La rupture du front Bulgare.** [The rupture of the Bulgarian Front.] 1929 [M 9403-J.49-D]

COMMERCE, Dept. of. Bureau of the Census: **Fifteenth Census of the U.S.: 1930. Agriculture.** Vol. II: Reports by States—Statistics for counties. 1932 [310]

COMMERCE, Dept. of. Bureau of Foreign & Domestic Commerce: **Statistical abstract of the United States;** for the following years: 1898-99-1901-02-1923-24-25-26-28-29-1930. [310]

CORDONNIER: **La tranchee de la soif. Episode des combats de la region de Saint-Mihiel.** [The trench of thirst. Operations around St. Mihiel April 1915 (Bois d'Ailly).] 1922 [M 9403-J.44:5]

CORLIEN-JOUVE: **Ceux des chars d'assaut.** [Those of the tanks.] 1932 [M 9403-G5]

COUDENHOVE-KALERGI: **Stalin & Co.** (German text) 1931 [M 947-C]

DUFFIELD: **King Legion.** 1931 [M 9403-A8.73-C]

ECKHARDT: **Russia.** Trans. from the German. 1932 [M 947-C]

ESSAD-BEY: **Stalin: The career of a fanatic.** Trans. from the German. 1932 [947-B92 (ST)]

EUROPAISCHEN Machte und die Turkei wahrend des Weltkrieges. [The European powers and Turkey during the World War.] Bande I-IV. 1932 [M 9403-E3]

FABRY: **Joffre et son destin.** [Joffre's destiny.] 1931 [M 9403-E4D.44-R92 (JO)]

FERGUSSON: **The story of Fergie Bey; told by himself and some of his friends.** 1930 [M 942-B92 (FE)]

FRANCE. Ministere de la Guerre:

Les Armees Francaises dans la Grande Guerre. [The French Army in the Great War.] Vol. II, with 2 vols. of annexes and vol. of maps. 1931 [M 9403-E4-D.44-C]

Reglement de manoeuvre de l'Artillerie. Troisieme partie: Service en campagne. [Maneuver regulations for artillery. Part III: Service in campaign.] 1931 [M 407-G.44]

Reglement des Unites de chars legers. Tome II. Deuxieme partie: Combat; Troisieme partie: Service en campagne. [Light tank units regulations. Part II: Combat; III: Service.] 1931 [M 405-J4]

Reglement sur la manoeuvre et l'emploi du Genie. Premiere partie: Preparation militaire et technique du Genie.—Premier volume: Methodes et programmes d'instruction. [Maneuvers and employment of Engineers. Part I: Military preparation and technique of the Engineers.] 1931 [M 410-H.44]

Reglement sur la manoeuvre et l'emploi du Genie. Deuxieme partie: Role et emploi du Génie en campagne. [Maneuver and employment of Engineers. Part II: Role of Engineers in campaign.] 1931 [M 410-H.44]

FRANCIS-FOREST: **Sur un air americain.** [An American refrain.] (Over there.) 1927 [M 9403-B4.44]

v.FRANCOIS: **Gehorsam und Verantwortungspflicht, erl. an d. Befehlsreibungen wahrend der Schlacht bei Tannenberg.** [Discipline and responsibility, conflict of orders during the Battle of Tannenberg.] 1932 [M 9403-J.47:4R]

FULLER:

The Dragon's teeth. A study of war and peace. 1932 [M 001]

Foundations of the science of war. 1925 [M 501-A]

GERMANY. Marinearchiv: **Der Krieg in der Nordsee.** [The war in the North Sea.] Edited by Kontreadmiral E. v.Mantey. 1920-23 [M 9403-L8]

GREAT Britain. War Office: **Vocabulary of German Military Terms and Abbreviations.** (Revised to 1928) 1928 [M 202-R.73.43]

GROSZER Bilderatlas des Weltkrieges. [Picture atlas of the World War.] Band 1,2,3. 1919 [M 9403-B3-C.43]

GRUBB: **Amazon and Andes.** 1930 [980]

HALL (Close, pseud.): **The revolt of Asia; the end of the white man's world dominance.** 1928 [950]

HALL, Lt.Col.: **The inland water transport in Mesopotamia.** 1921 [M 9403-J.56-P]

HAMILTON: **Modern Italy.** As seen by an Englishwoman. 1932 [945]

HAWES: **Philippine uncertainty.** An American problem. 1932 [M 9914]

HAYES: **The historical evolution of modern nationalism.** 1931 [M 003-C5]

HEDIN: **Across the Gobi Desert.** Trans. from the German. 1932 [950]

HICKMAN: **Geographisch-Statistischer Universal atlas.** [Geographical-statistical atlas.] [M 912-E]

HODGES: **Britmis: a great adventure of the War.** Being an account of Allied intervention in Siberia and of an escape across the Gobi to Peking. 1931 [M 9403-J.57]

HOFFMAN: **Volkstumliches Worterbuch der Deutschen Synonyme.** [Dcitionary of synonyms.] 1929 [424]

IMMANUEL: **Der grosse Zukunftskrieg—keine Phantasie.** [The great war of the future —no fantasy.] 1932 [M 502-C]

JAMESON: **Dictionary of United States History.** Alphabetical—chronological—statistical. 1931 [973]

JOUGUET: **De la trouee de Belfort a Mulhouse (aout 1914).** [Through the gap of Belfort to Mulhouse, August 1914.] 1932 [M 9403-J.44:4-C]

KERKHOFF: **Aaron Burr.** A romantic biography. 1931 [973-B92 (BU)]

KING: **England from Wordsworth to Dickens.** 1929 [942]

KNOWLES: **Economic development in the nineteenth century.** France, Germany, Russia and the United States. 1932 [330]

KNOX: **The naval genius of George Washington.** 1932 [M 973-B92 (WA)]

KOELTZ: **Le G.Q.G. allemand et la bataille de la Marne.** [German General Headquarters at the Battle of the Marne.] 1931 [M 9403-J.44:4N5]

LAIDLER: **Concentration in American industry.** 1931 [331]

LAROUSSE Universel en deux volumes. [Larousse Universel dictionary and encyclopedia.] 2 vols. 1922-23 [443]

LATTIMORE: **Manchuria: cradle of conflict.** 1932 [M 9518]

LAWES: **Twenty thousand years in Sing Sing.** 1932 [365]

LEE: **Latin American problems: their relation to our investors' billions.** 1932 [972.8]

LIPPMANN: **The United States in world affairs.** An account of American foreign relations, 1931. 1932 [327.73(A)]

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